PICK & PACK

THE BULLETIN OF THE COLORADO SPRINGS MINERALOGICAL SOCIETY Published Since 1960

Colorado Springs Mineralogical Society
Founded 1936
~ Lazard Cahn ~
Honorary President
Pick & Pack
Volume 66 No. 2
March 2026

CSMS General Assembly

Thursday, March 19, 2025 7:00 PM
Colorado Springs Christian School
4855 Mallow Road

~ Anthony Maltese ~

"Judith River Formation Dinosaurs"

Members are encouraged to bring specimens for help with identification and/or to share with us. Also feel free to bring refreshments.

In This Issue …

Fossil Hounds! Come see Anthony Maltese talk to us about Judith River Formation dinosaurs. Anthony is the Senior Curator for Research, Exploration and Morphology at Rocky Mountain Dinosaur Resource Center in Woodland Park CO.

TRIEBOLD
Paleontology Inc

President's Corner

Alex Field
CSMS President

2026 CSMS Officers

Alex Field, President
Shane Riddle, Vice-President
Phil Sevenants, Secretary
Kevin Witte, Treasurer
Adelaide Bahr, Membership Secretary
Lisa Cooper, Show Chairwoman
John Emery, Editor
John Massie, Past President
Maureen Richardson, Member-at-Large
Austin Cockell, Member-at-Large

2026 Liaisons

Florissant Fossil Beds National Monument:
S.W. Veatch
Western Museum of Mining and History:
S.W. Veatch

2026 Satellite Group Chairs

Austin Cockell, Crystals
Randy Hurley, Faceting
K. Harris/ R. Villareal, Fossils
Teri Adams-Fjellman, Jewelry
Sharon Holte, Lapidary
Vacant, Micro-mount
Fran Anderson, Photography
David St. John Pebble Pups

2026 CSMS Chairpersons

Shane Riddle, Program Coordinator
John Massie, Show Vol Coordinator
Kyle Atkinson, Field Trip Coordinator
Vacant, Science Fair Chair
Frank and Ellie Rosenberg, Librarians
Vacant, Social Chair
Vacant, Store Keeper
Lisa Cooper, Webmaster
Shane Riddle, Facebook Keeper
Mike Nelson, Federation Rep
Vacant, Federation Rep

Non-officer Positions

Mark Mann, Creative Director

Presidential Matters

Rockhounds!

Happy March, my friends, I hope you're all doing well as 2026 really gets going.

I want to remind you all about our Lapidary Loaner Program, in which you can bring home our club-owned lapidary kit to polish your rocks and make your own cabochons. Contact Pat Malone if you're interested: malone.patpat@gmail.com. We also have a couple Faceting Machines available to be loaned out, so you can learn how to facet and make your own faceted gemstones. Contact Randy Hurley if you're interested: jrhurley2014@gmail.com.

If you're a relatively new member (or a veteran member) and you're looking for ways to get involved or get to know other club members, please keep reading:

First, this month we're looking for help organizing our 2026 Field Trips, which should run from April to October. If you'd like to volunteer to help organize trips, set up trips on our web site, make calls, or even lead field trips in person, please email me at alexfield1@gmail.com (and copy our Field Trip Coordinator Kyle Atkinson - (Atkinson.KyL@gmail.com). Our all-volunteer team could use your help!

Second, we are always looking for Guest Speakers for our CSMS general assembly meetings. If you're interested in presenting a talk about a recent field trip, your own collection, or your favorite mine, mineral, locale, geological feature, prospecting tips, or fossils, please reach out to our program coordinator, Shane Riddle (taterriddle@gmail.com).

Finally, we're still looking for a Storekeeper, someone who can keep society shirts and hats and bring them to every monthly general assembly meeting. Let me know if you're interested in helping us out with this role in the club.

Thanks for reading!

Warm Regards,
Alex

Alexander Field
alexfield1@gmail.com
CSMS President

Secretary's Spot

Phil Sevenants

CSMS General Assembly Minutes

7 PM, Thursday Nov 20, Colorado Springs Christian School

Address: 4845 Mallow Rd, Colorado Springs CO 80907

Attendance: President: Alex Field - Present; Vice President: Shane Riddle - Present; Editor: John Emery - Absent; Past President: John Massie- Present; Treasurer: Kevin Witte - Present; Secretary: Phil Sevenants - Present; Member-at-large: Maureen Richardson- Present; Member-at-large: Austin Cockrell - Present; Membership Secretary: Adelaide Bahr - Present; Show Chair: Lisa Cooper - Absent

Agenda:

I. The Meeting was called to order by our President, Alex Field at 7:00 PM
II. Alex led the club in the Pledge of Allegiance
III. Meeting -
  A. There was a couple of prior members and several Colorado College students and their professor in attendance and Alex invited all new members to take home a mineral specimen tonight
  B. Attendance was 77
  C. We gave away 6 mineral specimens as door prizes (Spoke for 90 minutes at the request of the attendees).
IV. Officer Reports
  A. President – Alex Field: No report
  B. Vice President – Shane Riddle: No report
  C. Treasurer – Kevin Witte: No report
  D. Secretary – Phil Sevenants: No report
  E. Membership – Adelaide Bahr: No report
  F. Editor – John Emery: No report
  G. Members at large – Austin Cockrell: No report
  H. Members at large – Maureen Richardson: No report
  I. Past President – John Massie: No report
  J. Show and website coordinator - Lisa Cooper: No report
V. Satellite groups
  A. Pebble Pups Group – David St John: No report
  B. Photography Group – Fran Anderson: sign up for field trip
  C. Fossil Group – Richard Villarreal: Continues to meet on 2nd Wednesday, at East Library at 6 -7:30pm. Bring your fossils and the group will try to identify them. Richard brings his microscope to help identify fossils.
  D. Jewelry Group – Terry: new meeting place - fire station on Research
  E. Crystal Group – Next meeting See calendar
  F. Faceting Group - Randy Hurley: 11 March at 6 PM, library 21C in room B6
  G. Lapidary Group - Sharon: If weather is good Saturday/Sunday the equipment will be available if the weather is good. Bring safety glasses, smock/apron, tight fitting clothes
VI. Liaisons
  A. Scholarships – Maureen Richardson: No report
  B. Club Library – Frank and Ellie Rosenberg: No report
  C. Claims – Mike McCarthy: No report
  D. Hospitality – Eric and Sherry: No report
  E. Field Trips – Kyle and Shelby Atkinson: See website
  F. Lapidary Program and Club Loaner Equipment – Pat Malone: The machines are currently available.
VII. Unfinished Business – none
VIII. New Business — none
IX. Meeting was adjourned at 9:00 PM

Respectfully Submitted

Phil Sevenants
Secretary

Alex Field
President

CSMS Group Calendar

Mar '26	Apr '26						
11 Mar	8 Apr	Fossil Group	2nd Wed	6:00 PM	East Library	Kristine Harris Richard Villareal	719-593-1524 831-760-6985
5 Mar	2 Apr	Board Meeting	1st Thur	7:00 PM	Zoom	Alex Field	719-351-4897
3 Mar	7 Apr	Pebble Pups	1st Tue	4:15 PM	East Library	David St. John	719-424-9852
19 Mar	16 Apr	General Assy	3rd Thur	7:00 PM	Co Sp Christian Sch	Alex Field	719-351-4897
25 Mar	22 Apr	Jewelry Group	4th Wed	6:00 PM	Fire Station 19	Teri Fjellman	719-229-7759
26 Mar	23 Apr	Crystal Group	4th Thur	7:00 PM	Co Sp Christian Sch	Austin Cockell Kevin Witte (Alt)	719-323-4132
11 Mar	TBD	Faceting Grp		6:00 PM	Library 21c rm 6B	Randy Hurley	jrhurley2014@gmail.com
By appt	By appt	Lapidary Grp	By appt	By appt	Sharon's Garage	Sharon Holte	719-217-5683
9 Mar	13 Apr	Photography	2nd Mon	6:30 PM	Call Fran	Fran Anderson	719-494-7776

Community Events courtesy of the Colorado Scientific Society

Mar 5: "Ecosystems after the asteroid: new palynological discoveries at the K/Pg boundary," by Antoine Bercovici, Denver Museum of Natural Science. Talks are in-person-only, from 2-3 PM in Ricketson Auditorium. Museum admission not required to attend. Enter through Staff/Volunteer entrance, 50' east of main visitor entrance, and let Security know you're attending the talk, they will direct you to the location."

Mar 6-8: Mines Museum Rock, Mineral and Fossil sale, Mines Museum of Earth Science, Colorado School of Mines, 10 AM - 4 PM.

Mar 7: Free mineral ID day, Mines Museum of Earth Science, Colorado School of Mines, 1- 4 PM.

Mar 19: Colorado Scientific Society March meeting, 6:45 PM, Calvary Golden Church. For program information visit https://coloscisoc.org.

Mar 20-22: Fort Collins Gem and Mineral Show, 4-8 PM Fri Mar 20, 9 AM-6 PM Sat Mar 21, 10 AM-4 PM Sun Mar 22. Sponsored by the Fort Collins Rockhounds Club; featuring, "Fossils and Geodes." At The Ranch/Larimer County Fairgrounds, Thomas M. McKee 4-H, Youth and Community Building; 5280 Arena Circle, Loveland, CO; I-25 exit 259.

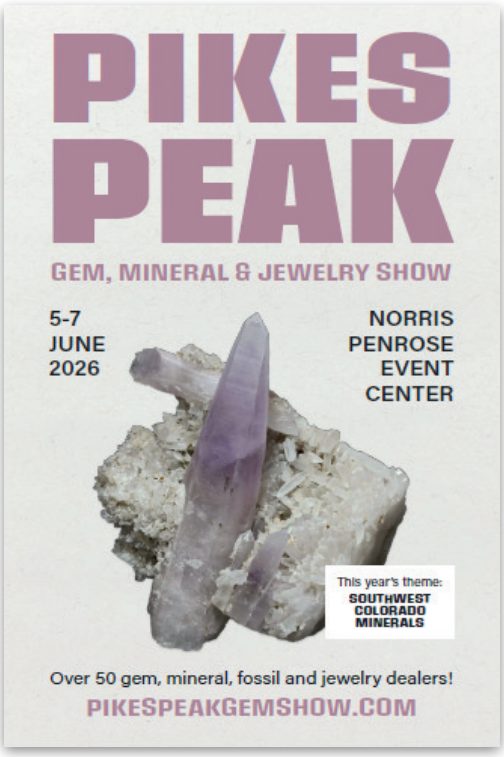
May 1: "Hot to the touch! Scorching temperatures in the mid-Cretaceous western USA," by Anne Metro, Colorado College. Denver Museum of Natural Science. Talks are in-person-only, from 2-3 PM in Ricketson Auditorium.

May 2: Silent Auction, sponsored by Colorado Mineral Society [Please check in the coming months to confirm the date and auction start time], at Wheat Ridge United Methodist Church, 7530 W 38th Ave, Wheat Ridge.

May 20: "Recent research on the pattern of erosion and uplift around and caused by the Yellowstone hotspot," by Joel Pederson, Colorado College. Denver Museum of Natural Science. Talks are in-person-only, from 2-3 PM in Ricketson Auditorium.

June 5-7, Pikes Peak Gem, Mineral, & Jewelry Show, sponsored by the Colorado Springs Mineralogical Society; 61st annual show. Norris Penrose Event Center, 1045 Lower Gold Camp Road, Colorado Springs.

June 11-15: Mineral Symposium, "Colorado 150, Celebrating 150 Years of Colorado Statehood," sponsored by Friends of Mineralogy, Colorado Chapter; includes optional field trips. For full info & registration see Symposium | Friends of Mineralogy Colorado Chapter https://friendsofmineralogycolorado.org/symposium/



CSMS Pebble Pups and Earth Science Scholars

fossilfun14@gmail.com

Pebble Pups and Earth Science Scholars

Our February 3rd meeting was an extra special co- lesson with Russ Grossman— a club member that is very skilled with the makerspace at the libraries and 3D printing. Russ created a PowerPoint presentation with a detailed step by step on how to begin, create and learn the amazing opportunities makerspace provides. Pups and Scholars were able to remove the supports of a T Rex skull print. Each pup and scholar received an amazonite smoky 3D print of a crystal Russ had preprinted. Russ makes stands, crystals, and skulls that are Earth Science related, and we learned so much during the lesson.

Outreach

Our outreach programs recently attended a STEM night for a district 49 elementary school. Our booth was a general geology and rock cycle theme. We also did a gem dig and passed out over 400 samples during the event.

Another outreach event was Geology Day at Western Mining Museum and Industry Super Saturday from 10-2 on the 21st. Special thank you to Betty Merchant for supporting us once again. The adults had as much fun as the kids for this event and we all enjoyed the many amazing machines and displays. I always look forward to the many events we support at the museum.

wonderwoman627 at Pixabay

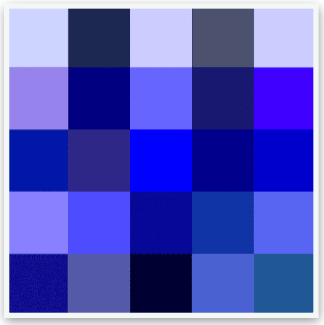
Visit the CSMS Pebble Pup website: http://pebblepups.blogspot.com/

wonderwoman627 at Pixabay

Blue Color is Everlastingly Appointed by the Deity to be a Source of Delight

(Title by John Ruskin)

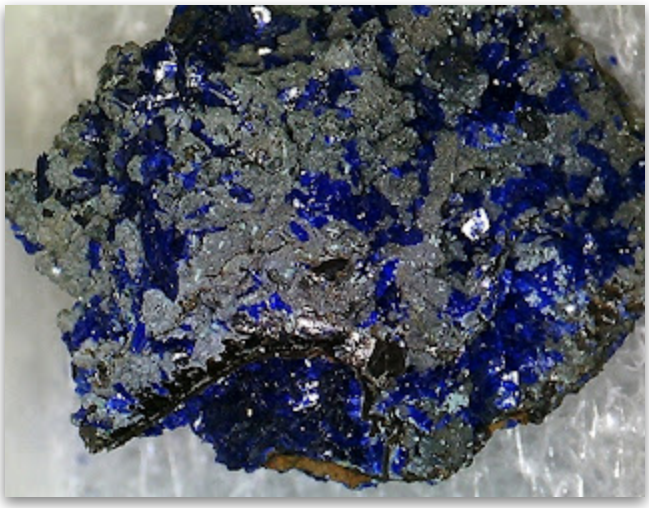
Mike Nelson
csrockguy@yahoo.com



Ask the average Joe or Joette on the street what comes to their mind when thinking about the color blue. Probably the first thing that pops up is something about the color of a beautiful sky (something that has been rare this winter here in the Wisconsin woods). Others may talk about the blue ocean (again not always the case) and the interviewer might wonder if the interviewees really know that water absorbs colors, like a filter, in the red spectrum of light more efficiently than in the blue spectrum? But things are quite black in ocean depths greater than about 600 feet—not much light penetration. So, does this mean that the ocean is not really blue? What it means is that our eyes see the color blue when rather clear, low-nutrient, low sediment load, water is scattered by sunlight.

More “happy” philosophical Joes and Joettes might think that blue is a relaxing color that indicates stability, serenity and wisdom while those “down in the dumps” might associate the color with the noun ‘blues,’ meaning a less than happy, sadder, emotion. Now an artistic sort of hipster would define blues as a musical genre, something with a ‘blues scale’ containing twelve bars and three chords in a particular order. Think B.B. King or John Belushi and Dan Aykroyd.

Now, ask an ole rockhound like me about what comes to mind with “blue” and out pops azurite. You know, the copper carbonate mineral that seems to define a color to those of us in the know—a soft, deep blue we refer to as azure-blue. Every rockhound in the world can picture and define azure-blue—a perfect color associated with copper minerals like azurite, or water contaminated with dissolved copper minerals leaving copper sulfate (Cu^{2+}).



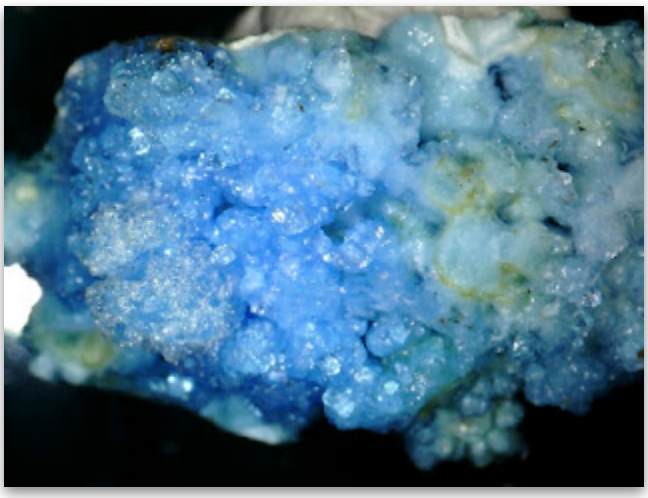
Above: A specimen of azure-blue azurite on matrix from the "Bisbee Mine" in Arizona. Width FOV ~18 mm. *Photo: Mike Nelson*

Somewhere a factoid once popped into my mind that said the copper-iron sulfide chalcopyrite was the most common copper mineral. Well, azurite is the most common copper mineral that the average Joe/Joette can identify. In a beginning mineralogy class azurite, with a chemical formula of Cu3(CO3)2(OH)2, is used to study positive cations combing with negative anions to create a mineral. The divalent copper II cation combines with a carbonate anion and a hydroxide anion, and voila, out pops the beautiful azure-blue azurite.

Azurite, with its magnificent blue color has been known to the world for centuries. For example, around 2500 BCE Egyptians used the mineral in

painting projects. In the early years of the CE, Pliny the Elder, a Roman jack-of-all trades, wrote the thirty-seven volume, encyclopedic *Naturalis Historia* and described what we now know as azurite: a deep blue mineral associated with copper deposits and used as a pigment. Today azurite is still used as an artistic painting pigment and is one of the most collectable minerals, especially in the southwestern U.S. where passing tourists seem to associate the color with the local Native Americans. Other rockhounds like me just collect it for its beauty and color.

So, we all know about blue azurite but what about other, less common, blue minerals. Well, first of all, check out the December 2020 issue of the Pick & Pack at https://www.csms1936.com/wp-content/uploads/2021/02/12Dec2020.pdf or a revised Blog version on October 24, 2024. But now I want to introduce you to: lemanskitte, lavendulan, and gibbsite.



Above: Earthy and nodular cluster of gibbsite, most of which is colored blue by "mineral mixtures" according to MinDat. Width FOV ~1 cm. *Photo: Mike Nelson*

Gibbsite, an aluminum hydroxide [$Al(OH)_3$], is one of the major components of the aluminum ore, bauxite—more on that later. Gibbsite has an interesting, seemingly simple, crystal structure with stacked sheets of linked octahedra. Each of the octahedrons has an aluminum ion bonded to six hydroxide groups (hydroxide equals one oxygen atom covalently bonded to one hydrogen atom). The stacked octahedrons are weakly bonded, and the mineral has perfect cleavage (001) similar to the micas; however, rockhounds rarely observe the cleavage due to the fine size of the gibbsite particles (mindat.org). Gibbsite is a mineral of many colors from white to green to yellow to shades of blue and purple. It usually is very soft and earthy (clay-like) with only rare crystals observable. Masses of gibbsite often form spherical or clumpy aggregates that are difficult to break apart and seem easily confused in hand specimens with masses of clay minerals.

Most gibbsite is produced by the weathering of aluminum-rich minerals (perhaps micas, feldspars, corundum and nepheline) and therefore is commonly found in weathering profiles that form in tropical and subtropical environments. Here “water” leaches out soluble materials such as silica and leaves behind iron and aluminum-rich oxides. The common sedimentary rock formed in these weathering profiles is bauxite, the major ore of aluminum, composed of gibbsite, böhmite [AlO(OH)], and its dimorph diaspore [AlO(OH)]. Mix the three minerals together with copious amounts of the clay mineral kaolinite and the “mixed up mess” is called bauxite and it is terribly difficult to identify individual minerals in hand specimens.

Gibbsite can also form in lateritic environments without combining with other bauxite-forming minerals, sort of a “stand alone” mineral. In deeply weathered igneous and metamorphic rocks, especially granite, gibbsite can form from the weathering of feldspars and micas. However, most gibbsites are formed in areas of high rainfall and warm temperatures where aluminum-rich rocks are located.

My specimen, ~11 x 20 mm, is from the Wenshan area of China and is part of a recent discovery, ca 2012, of attractive display specimens. Composed of aggregates of botryoidal sky blue to aquamarine gibbsite.

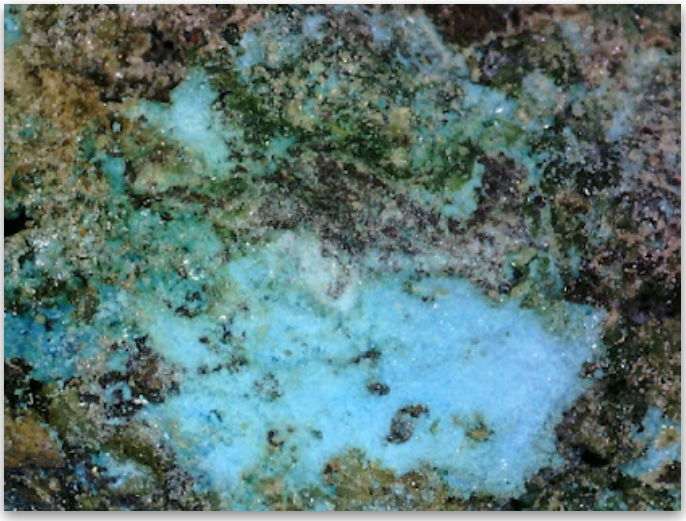
Mineral dealers believe the Wenshan deposits may be the best intensely colored gibbsite in the world.

Lavendulan and lemanskitte are what my mother from rural Kansas would term *Kissin' Cousins*, something that is of a very similar character to another thing of the same type (Oxford Languages).

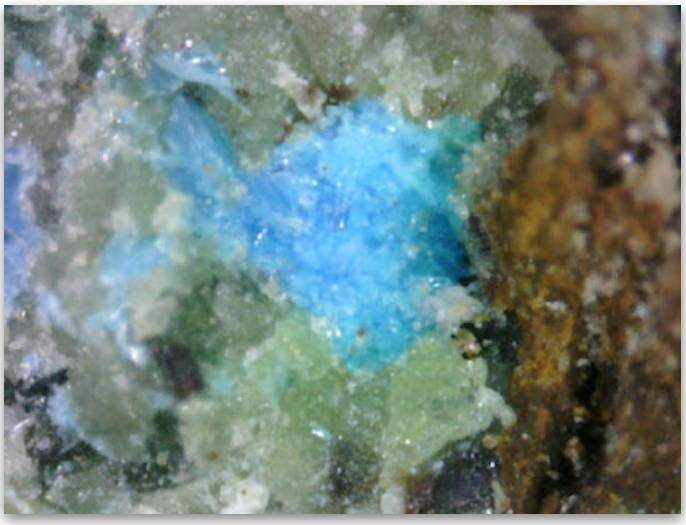
Lemanskiite is a "blue" mineral, mostly with a dark sky blue color and streak, occurring as groups or aggregates of thin tetragonal plates or prismatic, needle-like crystals, on some type of matrix, although more massive material is found filling fractures. It is a soft mineral, ~2-3 (Mohs), and has a vitreous luster. The type locality is a sulfide-rich, epithermal deposit in the famous El Guanaco Mining District, Chile. Lemanskiite is a hydrous copper, calcium, and sodium chloroarsenate: $NaCaCu_5(AsO_4)_4Cl \cdot 3H_2O$.

Above: A 6 mm cluster of rare, beautiful, blue crystals of lemanskiite collected from the Type Locality, Guanaco Mine, Taltal, Antofagasta Province, Chile. *Photo: Mike Nelson*

So, its cousin lavendulan, a Monoclinic mineral (lemanskiite is Tetragonal), is a slightly different blue color described as pale blue and/or greenish blue, a pale blue streak, and also quite soft with a vitreous to waxy luster. It often occurs as thin crusts of quite tiny radiating fibers as a secondary mineral in copper-arsenate deposits (such as Gold Hill in Utah), hence a hydrous copper, calcium, and sodium chloroarsenate: $NaCaCu_5(AsO_4)_4Cl \cdot 5H_2O$. The specimen below is from the obscure. poly-metallic (mostly copper), Alice Mary Mine, Kundip, Raventhorp Shire, western Australia.



Above: Pale blue, almost massive, smear of minute lavendulan crystals. *Photo: Mike Nelson*



Above: About a millimeter cluster of minute lavendulan crystals. *Photo: Mike Nelson*

Lavendulan has an interesting history as the mineral was named for the lavender color of the original type specimen by Johann Breithaupt in 1837 found near Annaberg in the "Ore Mountains" near the German-Czech Republic boundary (current geography). Nearly two centuries later work by Ondruš and others (2006) and Giester and others (2007) determined

Breithaupt's original type specimen was a mixture of different minerals and unrelated to the current definition/determination of lavendulan. Therefore, the second located specimen of lavendulan was found near Jachymov, also in the "Ore Mountains" of the Czech Republic and the Type Locality was moved to that location from Annaberg.

If that is not confusing enough, lemanskiite was originally described as a polymorph of lavendulan —sharing the same mineral formula but having different internal crystal structures, in this case Tetragonal and Monoclinic Systems. But along came Zubrovka and others in 2018 and determined that chloroarsenate lemanskiite had only three "waters" in its chemical makeup in contrast with five "waters" in lavendulan. (Bet you missed that in reading the above chemical compositions!!!Check it out.

Three waters or five waters or more, many blue minerals are very difficult to identify in micromounts. I found that it is best to look at the localities as noted in MinDat and identify blue minerals from their list and go from there. For example, lavendulan and lemanskiite, those pesky "how many waters" minerals, don't often occur together and lavendulan is a much more common mineral, especially in copper arsenic mines.

The theme of the upcoming Tucson event is *Red, White, and Blue*; therefore, I expect to see some quite magnificent blue specimens.

REFERENCES CITED

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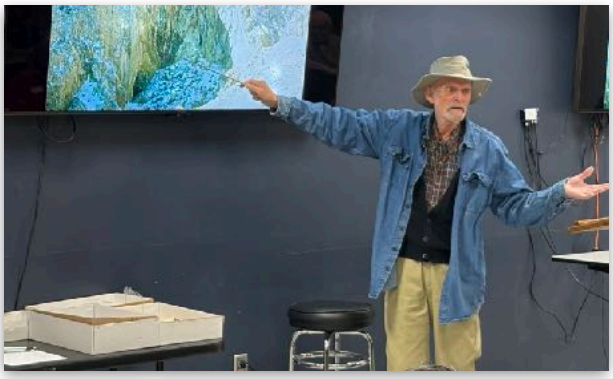
Ondruš, P., D., Veselovský, F., Skála, R., Sejkora, J., Pažout, R., Fryda, J., Gabašová, A., Vajdak, J., 2006, Lemanskiite, $NaCaCu_5(AsO_4)_4Cl{\cdot}5H_2O$, a new mineral species from the Abundancia mine, Chile: The Canadian Mineralogist, Vol.44, No. 2.

Zubkova, N. V., Pekov, I. V., Chukanov, N. V., Kasatkin, A. V., Ksenofontov, D. A., Yapaskurt, V. O., Britvin, S. N., Pushcharovsky, D. Yu, 2018, Redefinition of lemanskiite: new mineralogical data, crystal structure, and revised formula $NaCaCu_5(AsO_4)_4Cl \cdot 3H_2O$: Geology of Ore Deposits, Vol. 60, No. 7.

Mike is a former University professor and administrator who enjoys outdoor activities, and writing articles for the *Pick & Pack,* other rock and mineral clubs, and the Newsletter of the Rocky Mountain Federation of Mineralogical Societies (www.rmfms.org). He also writes, and occasionally speaks, about members of the Colorado Cavalry/Infantry who participated in the march to Glorieta Pass (1862), helped settle central Kansas (1865), and later fought at Beecher Island (1868). But mostly he just tries to enjoy life with frosty IPAs, travel, and collecting mundane facts and pretty rocks/ minerals.

General Assembly
19 Feb 26

A record breaking 77 rockhounds gathered on a cool Colorado Springs evening at Colorado Springs Christian School to see master rockhound team Dan and Dianne Kile talk to us about stories from the field - some harrowing experiences! Thanks Dan and Dianne for coming to talk to us. We had a group of Geology students visiting from UCCS - good timing! We did club business as usual and gave away seven free minerals by free raffle.



The Red Elephant Mine:
Crystal Peak Area, Colorado
Steven Wade Veatch

For as long as I can recall, I wanted to experience what it would be like to find the legendary crystals and gemstones that Pikes Peak is famous for. In some places Pikes Peak Granite contains an incredible suite of minerals that formed magnificent crystals in cavities at least a billion years ago. Large crystals of white microcline or feldspar are common. Amazonite, a variety of microcline, is present in well-formed crystal groups in varying shades of blue, ranging from a faint pale-blue to a brilliant blue-green color. The distinctive color is thought to be derived from varying levels of lead present in the amazonite when it formed, although this is still debated by mineralogists.

Above: Microcline feldspar variety Amazonite with smoky quartz from the Halpern Mineral Collection, Colorado, USA. *This file is licensed under the Creative Commons Attribution-Share Alike 2.5 Generic license. Photo Date 2006 by Eric Hunt.*

The amazonite from the Lake George area is distinctive because of its large, well-formed crystals, and its large size, and its intense blue color. Amazonite, named after the Amazon River where unusual, rounded pebbles of this gemstone were found, was part of the Pharaoh Tutankhamen's ring and was described as the third stone in Moses' breastplate.

Smoky quartz crystals are associated with the amazonite crystal groups, and most of the smoky quartz crystals are flawless—ranging from pale brown to midnight black, all with a stunning gem clarity. The smoky color is caused by radioactive elements in the granite. Slowly, over the millennia, the quartz

darkens in response to the radiation. Purple, greenish, and light blue fluorite crystals also occur in this suite of minerals. These magnificent gemstones eluded me for over four decades.

One summer day, I asked my rock hounding friend, Dave Jackson, to go with me to the Crystal Creek area, which is noted for deposits of these gems, and to look around. The area is reached by following a two-track Pike National Forest road that begins at Lake George, Colorado then branches off at a towering raw granite formation known as Sheep's Head, fords Crystal Creek, and then follows a steep grade to a ridge.

On our first trip there, I noticed the hillsides were perforated by numerous holes dug by previous prospectors. I thought that was a good sign that others searched here before us. After parking Dave's truck, we manhauled our gear in five-gallon buckets the rest of the way. We each carried two buckets: one in each hand; one bucket was empty; the other bucket had our tools. The empty bucket was for the gems we might find.

We began our hike up the steep hill. It was a beautiful climb: granite boulders were spotted with various species of lichen; mountain mahogany dotted the landscape; and kinnikinnick grew near the top of the ridge, where a cool mountain breeze passed through the pines. Dave and I decided to go to where the pine trees edged a small opening in the ground and to dig under the dumps of several small, abandoned prospects.

My old friend Rich, a first-rate prospector, ran into us on that sunny summer day and showed us an old gem mine next to where we were: he knew this site would be a good one for us to work. Rich said, "I worked the area next to this spot with good results. I'm telling you this is a good place to dig." Rich is one of the rare people in life whom you run into who are doing exactly what they were meant to do. Rich is an exemplar in the mineral world and spends most days outdoors working at his mines. His face and hands are weather-beaten—almost like leather—from a lifetime of mining, both as a profession and a hobby.

Discussions with Rich that day brought back to me a number of pick and shovel moments of chipping crystals out of a cave together six years before in the mining town of Ouray, Colorado, and being run out by the property owner. Rich and I did not know it was private property. Four years earlier we had collected blood-red agates on a hill of volcanic ash near Cañon City, Colorado. Exposure to the weather turned the ash into bentonite clay, and recent rains made it swell up with a surface slippery as ice. While trying to pluck red agates out of the bentonite with Rich, I tripped and slid down the hill on my back, getting covered with wet bentonite clay. It took forever to get the clay out of my clothes and inside of the car. Rich laughed for hours.

I was glad we ran into Rich that day and got his help finding a good place to dig for gems. Dave and I followed his advice and began the arduous work of digging with picks, shovels, pry bars, old screw drivers, and rock hammers. When the pick struck the granite, it would vibrate in our hands, sometimes sparks would fly, and the thud of the pick against the granite filled the forest. The granite would break up from the relentless pounding with the pick—leaving piles of crumbled granite. We shoveled the granite gravel into a bucket and then hauled it to the surface and dumped the gravel on the ground, forming a "tailings pile."

In the Crystal Peak area, the gemstones and crystals occur inside of what is called a "pocket" or ancient bubble in the Pikes Peak Granite. This granite was formed just over a billion years ago as a melting, monstrous blossom of red magma pulled off the Earth's mantle in a stately phenomenon forming a magma plume in that hostile and hellacious inferno. This molten plume made an unrelenting climb through the beleaguered crust, mixing the mantle and crustal material together and forming the Pikes Peak Granite.

Above: Amazonite and Smoky quartz diorama, located in the First-Level Rocks & Minerals Exhibit at the Denver Museum of Nature and Science. Representing an unspecified 'Crystal Peak' location in Colorado. *This file is licensed under the Creative Commons Attribution-Share Alike 4.0 International license.*

Left: A view of Crystal Peak near Florissant, Colorado. The area is known for its gem mining sites, most are under claim. *Photo date 2006 by S. W. Veatch.*

Parts of the Pikes Peak Granite became pegmatite, a coarse granite that sometimes yields precious gems. The granite pegmatite is derived from magma in the Pikes Peak Granite that formed during the last stages of its cooling. At this point volatile components trying to escape the magma, were trapped in the granite as bubbles. As the granite cooled and contracted, the bubbles or open cavities provided a space for crystals to grow to unusually large sizes and line the interiors of the voids. Our prospect hole was in just such a granite pegmatite.

Rich's directions paid off; after digging a few hours, Dave and I made a-six-foot-deep excavation that we could both fit in. We took turns with the pick and shovel work. The pick would break up the granite. When the disintegrated granite became deep, one of us would shovel it into a plastic bucket and haul it to the surface to dump. It was cool and damp in our excavation pit, and the scent of fresh dirt and moist gravel was strong.

There is an abrupt change in the pegmatite as one approaches a gem cavity. The feldspar and, quartz that form the pegmatite change in appearance near a pocket. The component minerals become elongated or contorted, revealing what look like small swimming tadpoles or cuneiform writing—a mysterious script with an important, yet coded message declaring gemstones are near for those who are clever enough to follow the clues and find them. This is known as graphic granite.

Above: Once a pocket is opened, we switched to working with wooden tools so we do not scratch the pocket minerals. *Photo date 1998 by D. Jackson. R-4.*

Suddenly Dave yelled, "Look at the granite, it is changing—it is graphic granite for sure! See that old pine tree-root? It has worked its way through granite cracks and disappears straight into the rock. There must be a pocket behind the root."

Above: View of a pocket with a cluster of blocky amazonite crystals held in place by tree roots. *Photo date 1998 by S. W. Veatch. R1-5.*

"Let me take a look," and I yanked out the root, and then took my glove off and carefully put my finger into the hole. I said to Dave, "Holy God, I can feel the crystal faces!" My throat tightened, my heart almost beat out of my chest, and Dave's eyes were open wider than an owl's at night.

The root sought out moisture in a small cavity, leading us to that discovery. We immediately switched to wooden tools: tree branches, wooden skewering sticks, and wooden mallets, to open up the cavity slowly, carefully, and methodically. Metal tools can nick or fracture the valuable crystals and gems. Once we enlarged the hole to the cavity, our flashlight revealed shining smoky quartz crystals; a gemmy, sky-blue amazonite- crystal group; and sparkling deep purple and light blue cubic fluorite crystals. One group of fluorite crystals clustered around the base of a gleaming smoky quartz crystal.

Our next step was to empty the pocket, about the size of a grapefruit, of its gem hoard. Each crystal and gem had to be carefully wrapped in newspaper for carrying it down to Dave's old truck. This pocket was the sign we needed to continue working the gem mine. If there is one crystal pocket, there will be others.

Our digging and removing crystals from the pocket burned up most of that first day. The shadows were shifting in the forest, and the sky was filled with pastel colors. I took one last look to the west and watched the setting sun redden the clouds over the boundless, tree-covered ridges; it was time to leave. Soon the dark blue of evening would spread, and it would be hard to travel along the old road in the dark. The moon was beginning its rise over Crystal Creek, and it was time to leave.

Continued …

Above: Dave Jackson is expanding the main pocket area of the Red Elephant. He put his jacket over a massive plate of stunning amazonite and smoky quartz crystals. *Photo date 1998 by S. W. Veatch. R1-6.*

Above: About an hour's work of carefully removing crystals from the claim's pocket. *Photo date 1989 by S.W. Veatch. R1-7.*

We came back the following weekend working the claim for a few hours and then having lunch near some fallen pine trees blown down by a violent summer storm. But on this day, the logs were our seats for lunch under a thick canopy of towering aspen trees. We each had a can of Red Elephant, an imported beer that has a great flavor and comes in giant cans and has a punch—it even made my lips numb. We decided to name our mining claim after the beer.

While relaxing and finishing my Red Elephant beer, I noticed a nearby decaying stump was full of life and realized that one day the forest would consume it. The stump was actually a dwarfed ecosystem. Many types of insects lived in the stump. A beetle stuck its head out from a hole it had bored in the bark. It left a pile of frass just below on a blanket of pine needles. I spotted a pill bug and a centipede, and noticed the different colors of moss and lichen that covered the stump. During the stump's decomposition, new niches for life opened and old ones closed as the stump evolved from fresh-cut wood leaking resin to rotting wood dripping nutrients into the soil. The stump will eventually become crumbled fragments and mold, invaded by roots of plants and covered by dead twigs and leaf litter fallen from the canopy of the trees above. It was time to stop thinking about a stump and return to the hard pick and shovel work of the afternoon.

After several hours of moving rock and gravel, we had a hole that was ten feet deep—straight down. I found out just how hard this work is: breaking through granite by dint of force and muscle with a pick is not easy at this depth, the gravel and rocks have to be hauled to the surface in a bucket on the end of a rope. The deeper the excavation, the harder the work is—gravity is constantly working against us. In our deep hole, we opened up a pocket larger than a watermelon.

A treasure trove of mineral specimens lined the pocket. Some crystals had detached from the

pocket ceiling due to local vibrations from earthquakes and freezing and thawing cycles over many winters and fell flat on the pocket floor. The pocket floor was filled with flawlessly formed amazonite crystal groups—most over nine inches across—on sections of pegmatite granite. There were clusters of 12-inch-long smoky quartz crystals radiating out in various directions. Most of the crystals were as black as midnight.

I took my jacket off and covered the crystals on the floor of the pocket so they would be protected as we removed the ceiling crystals and as we broke away more of the granite rocks above. Removing the crystals and gems requires care. Any rush to extract them could make an ugly chip or fracture. All of the crystals were carefully removed by hand and then wrapped in newspapers to protect them. I carefully cleaned the pocket out with a wooden chop stick and whisk broom, and then sprayed the interior with water for a good view. At this point, the world's problems melted away and we are focused on protecting these gems. We were the first ones on the planet to see these primordial, unique, and quite valuable crystals.

On the way out, the buckets full of wrapped gems in one hand and the buckets of tools in the other hand balanced us as we walked down the hill. Crystal Creek was flowing with a murmuring joy within its banks. Willows lined the creek until the road crossing where we drove through it. Some little birds were dipping at some of the pools of Crystal Creek. Deer were keeping an eye on our activities. Dave and I glanced at each other, and I said, "We sure hit it big, Dave; we made a big strike today." Our excitement filled the gem fields.

* * *

On our last trip to the Red Elephant that summer, Dave's truck was being repaired, and I was willing to risk my brand-new Jeep on the forest roads and all of its hazards to get to our mine. I drove my new Jeep Cherokee up the road and got stuck. Dave and I pushed, pulled, swore, and sweated, but remained stuck on the old 2-track road in the middle of Pike National Forest. My biggest concern was what my wife would do to me if I banged up our new Jeep. Cell phones did not exist yet, so I could not call out for help.

Soon we heard the sound of another car, and it was headed in our direction. I could not believe we would run into anyone on this road on a weekday. It was Ray Berry, a member of the local rock club (Colorado Springs Mineralogical Society) I belonged to. Ray is another mineral exemplar. On his way to work his claim, he pulled us out in seconds with his winch.

Dave and I began to work the Red Elephant, and soon we were down to 14 feet when our pick shattered the typical granite and revealed graphic granite—a sure sign we were close to a pocket of gemstones. We discovered several more pockets ranging in size from a softball to a basketball. Some of the pockets we found were located by following quartz veins to the crystal-lined pockets. The color of the granite also provides a clue that a pocket is nearby—reddish granite tends to bear more pockets. Other pockets that day were located by pure luck.

* * *

The entire Crystal Creek area has been yielding amazing gemstones for centuries, providing material for an expanding gem market and yielding specimens that provide clues to help scientists understand the nature of the Pikes Peak Granite. Today there is still gemstone mining activity over the entire Crystal Creek landscape.

This land also has meaning beyond the valuable gems and as a gateway to scientific understanding. I noticed an old cabin and a few outbuildings in the forest. The cabin is deeply weathered. Parts of the buildings are gone or caved in. The chicken coop, always an important homestead structure, is still in good shape, built as strong as Fort Knox. Eggs and skillet fried chicken were important to a family that eked out a living in this remote forest a century ago.

Before homesteaders, this quiet land once belonged to the Ute people. Chief Ouray and his wife, Chipeta, camped in tepees during the summer, and Ute braves hunted in the area. When they were not hunting, the men climbed hilltops with good views and made arrow and spear heads from stone. The women made clothing from deer and bison hides and attended to other duties. Children played games in the aspen trees.

* * *

Currently, the area is an active gem mining site, and the place where I finally experienced the excitement of making a rich strike. On weekends, countless hobbyists work their claims. Some people work their claims all summer long.

It was the last day of our mining season. Leaning back on a ponderosa pine on the surface near the Red Elephant, I reflected on the season. After hunting the elusive Pikes Peak amazonite for decades, I finally found it. I learned from this experience to never give up on something you want to accomplish. If you give up, you will never know what could have been. This is an important lesson for many aspects of life.

Then there is the hard work—the digging; digging deep into the ground that yielded the elusive gems. The digging that put me into direct contact with the nature of the granite gave me a deeper insight to the geology of the site and the architecture of Pikes Peak Granite over wider areas. I realized that I could physically keep up with the hard digging. I learned about people: that Dave was fair and split the specimens we found evenly, and that Rich was a good friend to direct us to a site that he knew contained valuable gemstones. Rich did not have to provide that information. I also experienced nature on a deeper level. When I took a break from digging, I saw the cycle of life at the decaying stump. It was truly a season with nature, one without the technology that has invaded every dimension of our lives. I knew there was more to learn out there in the forest, and that means to continue digging, always deeper.

* * *

It was getting late on our last day of the mining season. We packed up our gear and headed down the trail, crisscrossed by deer tracks, to my jeep. With darkness fast approaching, we drove down the old forest-service road. As the Jeep forded Crystal Creek, a small herd of deer—waiting to get a drink—watched us from the trees. A hawk silently flew overhead, towards the setting sun.

Acknowledgment

I am deeply grateful to Bob Carnein for his meticulous editing and insightful guidance. His keen eye for detail and commitment to the integrity of this story helped transform a rough draft into a finished narrative. This memoir is significantly stronger because of his expertise.

Location of the Red Elephant

Mileage Log	Location
0.00	At the intersection of U.S. Hwy 24 and Trail Creek Road (Pike National Forest work center sign marks this) in Lake George, Colorado, turn left if you are heading west on Hwy 24
3.1	Junction of Trail Creek Road and Crystal Peak Road - go left
3.6	At Junction go straight
4.1	Sheep's Nose rock formation to the left - continue down road
4.3	Forest Road 201 - turn left
4.5	Pike National Forest Boundary
4.9	Old prospectors shack - stay to the left
5.3	Ford Crystal Creek - stay to the left
5.8	Ford Crystal Creek on last time - turn left
5.9	Park here and hike up trail to top of hill - pegmatite minerals are in this area

About the author: Steven is a geologist who joined the CSMS when he was 10, in 1965. The club met at that time at the old IBEW hall near the west side of the city. He was inducted into the Rock-hound Hall of Fame in 2015. His complete profile is available at:

https://www.blogger.com/profile/06566101278318062273

Upcoming photo group meetings - contact Fran Anderson 719-494-7776

Day and Time	Place	Information
March 9 at 2pm	**Quartz Quarry** field photography trip & micromount bonus session	Join Ann and I for a photographic adventure day. We will meet at Ann's house and go from there. She's in the Woodland Park area. Please email or text me if you are interested and I will give you the address.
April 13	**TBD**	We might be doing another photographic field trip. Working out the details, but perhaps St. Peter's Dome area. Stay tuned!

The Bone Hunter's Odyssey

Moving across the vast arid expanse,
the fossil-hunter walks where
wind sculpts the sandstone cliffs.
She moves, a dark silhouette
against the open sky, her gaze
probing the land for ancient whispers.

Each step brings her closer to
forgotten worlds, a boot print left
where titans once roamed.
In her hands, the map is a mere outline,
but her heart knows the language of the earth.

The first find is modest: a piece of a tooth,
jagged, yellowed, kissed by time's
slow grind. She kneels, brushing away eons of dust
with reverence— as though waking a sleeping king.

The storms come fast in the badlands,
thunder growling like the ghosts of giants,
and still she presses on, for somewhere
beneath the layers of sandstone,
a story waits, curled in the rock's embrace.

One evening, the setting sun paints the cliffs in fire,
and there it is: a curve of rib, a fragment of a skull,
a whisper of something vast, something
that once thundered across the land now hushed
beneath the layers of hard sediment.

She digs until the moon rises, chipping away millennia
with steady hands, the fossil emerging like a secret
told too long ago to matter anymore.

What was it, she wonders, this beast whose bones
she cradles? A scavenger, a predator, a titan
of green forests? She dreams of it moving—
great muscles rippling under plated skin,
a roar that could split the silence of time.

When the season ends, she packs her finds,
loading crates with the weight of history.
The land watches her go, its treasures
uncovered its riddles offered but never fully solved.

And as she drives away, dust rising in the wake
of her truck, she glances in the rearview
mirror, knowing she'll return. For the earth whispers
to her an endless call to adventure.

By Steven Wade Veatch

Pike's Peak Gem & Mineral Show

Presented by the Colorado Springs Mineralogical Society
June 5 - 7 2026, Norris Penrose Event Center, 1045 Lower Gold Camp Rd, Colorado Springs
Fri 10 AM - 6 PM, Sat 10 AM - 6 PM, Sun 10 AM - 4 PM

Request for NON-COMPETITIVE Display Space

Name:	Society:

Address:

Phone:	Email:

City:	State:	Zip:

Describe display or cases:

	I will bring my own display	Your case length:	# of cases:
	I will need a case*	Case size desired:	# of cases:

* CSMS cases are approximately 36" by 24" outside measurements. A few 4-foot cases are generally available. There is a hasp on the case that accepts an exhibitor-supplied padlock.

Exhibitors are urged to bring their own cases. A limited number of club cases are available upon request. Exhibitors using club cases will need to furnish any risers, linings, padlock or accessories as needed. EACH CASE WILL BE LIMITED TO 150 WATTS.

Setup is from 1 PM to 7 PM on Thursday or 8 AM to 10 AM on Friday before the show opens. Note new show hours for Friday. Tear down is 4 PM to 8 PM on Sunday.

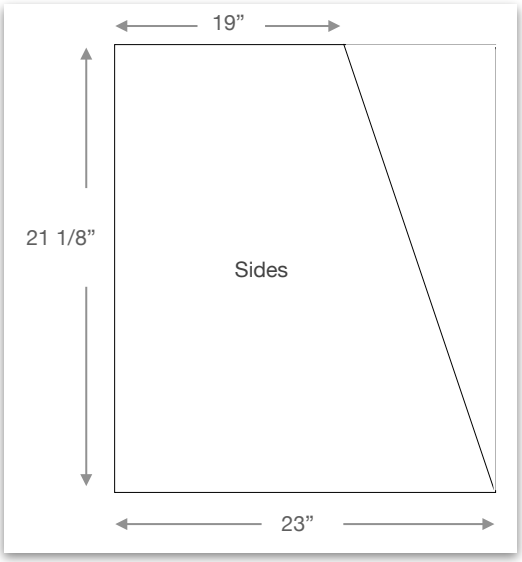
Return by mail or email by May 29th to reserve a case and exhibit space. After May 29th, exhibitors are still welcome based upon availability of cases and space. Return to: Bob Landgraf, 304 Palmer Trail, Manitou Springs, CO 80829 719-685-1364 rmlwp74@aol.com

Signature of Non-Competitive Exhibitor: _____

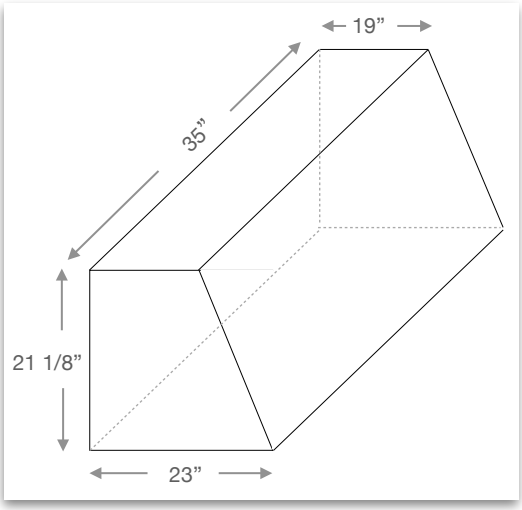
With the signing of this request, email submission of this document or showing up with an exhibit, it is mutually agreed that the Colorado Springs Mineralogical Society and the Norris Penrose Event Center shall not be liable to any exhibitor for damage, loss or destruction of any exhibit or injury to his person for any cause and all claims for injury are expressly waived by the exhibitor.

The Colorado Springs Mineralogical Society Case

All measurements are inside measurements. However, since all cases are handmade there may be some slight variations in the cases. Be sure to bring any necessary tools required to make adjustments to your liners. Also remember to allow for thicknesses of your liners to make the final fit.



All measurements are inside measurements.



The Pikes Peak Gem, Mineral and Jewelry Show will be June 5-7 for 2026. The theme will be Southwest Colorado Minerals. As always, any earth science related exhibit is welcome. We need every member’s help to promote our show as the non-profit club show with exhibits and kid’s activities.

Of course, we need your help in exhibiting those neat treasures that you have either dug up, purchased, or created! Please note Friday hours of show open from 10AM to 6PM.

During spring cleaning, those specimens that you have in excess that need a good home would be welcome for both the silent auction and the Pebble Pups booth at our show.

PICK & PACK
THE BULLETIN OF THE COLORADO SPRINGS MINERALOGICAL SOCIETY Published Since 1960

Classifieds & Announcements

Editor
John D. Emery

Thanks to our contributors. 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 welcome. The deadline for items to be included in the next *Pick & Pack* is the **last day of the 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.

Feature articles can be in MS Word or Mac Pages, preferably not pdf. The newsletter is produced in Mac Pages.

e-mail the editor:
pickandpackeditor@gmail.com

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

Pick & Pack is published ten 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*.

Western Museum of Mining and Industry

The CSMS and WMMI have a cooperative agreement. Be sure to visit the WMMI website and learn about this amazing museum.

https://wmmi.org/

WESTERN MUSEUM OF
MINING & INDUSTRY

When Earth Speaks

CSMS member Fran Anderson leads our photography group, but she also owns a photography business: **When Earth Speaks.** Be sure to visit her website at www.whenearthspeaks.com and if you want to learn more, join Fran at her monthly meetings, 2nd Mondays, 6:30 PM - see her group page for details.

Writing Projects - CSMS History

History buffs, CSMS member Tina Cox is leading an effort to do research and dig up some old newsletter articles in celebration of the society's 90th anniversary. If you're interested in doing research at Penrose and Carnegie libraries, and reproducing an article for the newsletter, contact Ms. Cox at:
RkyMtnTina@gmail.com

Additionally, we are producing a new edition of the CSMS history handbook originally produced by CSMS editor Ray Berry (Nov 5, 1928 — May 22, 2017). If you are interested in writing or researching for the book project, contact the editor at:
pickandpackeditor@gmail.com

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Pick & Pack
P.O. Box 2
Colorado Springs, CO 80901-0002

CSMS is an incorporated nonprofit organization with the following 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 newsletter 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 PM at Colorado Springs Christian School, 4855 Mallow Rd, Colorado Springs CO 80907
- Visitors are always welcome.
- Individuals—$30, Family—$40, Juniors—$15, Corporate—$100.
- Find the application at the web site: www.csms1936.com**.** 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.

Meetings: 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, Lapidary Group, photography group, and Pebble Pups/ Juniors. For details on Satellite Group meetings, check out the calendars enclosed and the web site.

Membership Benefits: 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), a year of learning and enjoyment, plus a lifetime of memories.

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.rmfms.org