

**Colorado Springs  
Mineralogical Society**

Founded 1936  
~ Lazard Cahn ~  
Honorary President

*Pick & Pack*  
Volume 66 No. 4  
May 2026

**CSMS General Assembly**

Thursday, May 21, 2026 7:00 PM  
Colorado Springs Christian School  
4855 Mallow Road

**~ Shane Riddle ~**

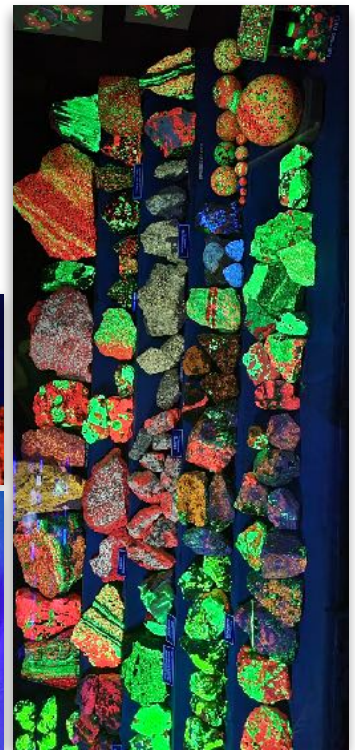
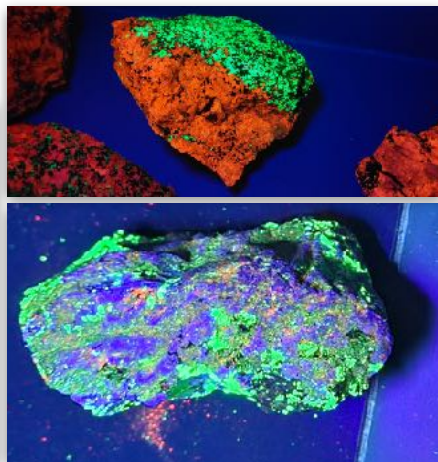
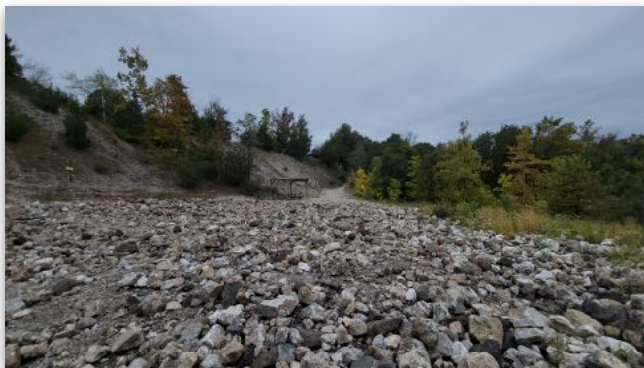
“Franklin Mineral District, Fluorescent Mineral Capital of the World”

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

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Shane will be presenting information on the Franklin Mineral District in Franklin, New Jersey, which is known as the Fluorescent Mineral Capital of the World. The topic will cover some of the history of the area including mining operations and the discovery of the fluorescent minerals in the early 1900's. We will be hearing about the two museums in the area as well as specimen collecting opportunities. Shane has been fortunate enough to be able to visit the area 3 times and has toured both museums as well as collected and purchased some nice specimens that will be on display during the meeting. Part of the presentation will also include the mistakes made and learned from while collecting in the area as well as best practices to find your own specimens to bring home. We will also be discussing how there are direct ties between something in the Franklin Mineral District and the Colorado Springs Mineralogical Society's history.



COLORADO SPRINGS MINERALOGICAL SOCIETY PO BOX 2 COLORADO SPRINGS, COLORADO 80901-0002  
Visit our website: <http://www.csms1936.com/>

# 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



Happy May, my friends!

I was reminded how I got into rockhounding this week, while visiting family in southern California. I spent a couple hours hunting for sea glass on the beach with my nephews and enjoyed an amazing time—one of my first mineral hunts was an agate on Oregon beaches.

Anyway, I get into a kind of meditative state while out in nature, head to the ground, looking for minerals in the middle of nowhere. Can you relate? Hunting sea glass is similar, in that you get into a bit of a rhythm as you hunt the beach, listening to the waves hit the shore, searching through rocks and shells, looking for a particular glint in the sand. I can lose hours doing this. Hunting for minerals in our Colorado Rockies has always held a similar appeal to me, and it helps me clear my mind every time I go out into our mountains and see what they have to offer.

I hope you get to experience this on one of our upcoming field trips this year! The next CSMS field trip is in late May to hunt for Garnets at Arroyo Gulch. If you're an active member, you can sign up today on our field trip and member website <https://csms.tectonictreks.com>. If you're not able to access this page email me directly at [alexfield1@gmail.com](mailto:alexfield1@gmail.com), and I'll make sure you get access ASAP. : )

Another update: CSMS members have an amazing opportunity to join a brand new GEOLOGY 101 course with member A.J. Anderson, that started on Monday May 4th at 6:30 pm at the Manitou Springs Library in the upstairs meeting room. If you missed the first class, the second class will take place on May 18th at 6:30 pm in the Manitou Springs Library, in the upstairs meeting room. If you're not getting updates from A.J. via email and you'd like to receive those, you can email him at [afanderson.engineering@gmail.com](mailto:afanderson.engineering@gmail.com).

It's getting warmer (though not quite summer yet), so I hope you all get outside, enjoy some good walking out in the wild, and find some amazing minerals while you're at it!

Regards,  
Alex

Alexander Field  
[alexfield1@gmail.com](mailto:alexfield1@gmail.com)  
CSMS President

## Secretary's Spot

Phil Sevenants



## CSMS General Assembly Minutes

7 PM, Thursday Apr 16, Colorado Springs Christian School

**Address:** 4845 Mallow Rd, Colorado Springs CO 80907

**Attendance:** President: Alex Field - Absent; 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- Absent; Member-at-large: Austin Cockrell - Present; Membership Secretary: Adelaide Bahr - Absent; Show Chair: Lisa Cooper - Absent

### Agenda:

- I. The Meeting was called to order by our vice-president, Shane Riddle at 7:02 PM
- II. Shane led the club in the Pledge of Allegiance
- III. Meeting -
  - A. Visitors (7)
  - B. Attendance was 70
  - C. We gave away 4 mineral specimens as a door prize.
- IV. Speaker was Joe Wiggett -"The Formation of Agates: Facts, Fictions and Mysteries"
- V. Officer Reports
  - A. President – Alex Field: No report
  - B. Vice President – Shane Riddle: Looking for guest speakers
  - C. Treasurer – Kevin Witte: Funds are good
  - 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: Please sign up to help (Thursday, June 4th 8AM setup)
  - J. Show and website coordinator - Lisa Cooper: No report
- VI. Satellite groups
  - A. Pebble Pups Group – David St John: Appreciate the clubs' support with donations.
  - B. Photography Group – Fran Anderson: sign up for field trip
  - C. Fossil Group – Richard Villarreal: Continues to meet on 2 nd 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 – Teri: 4th Wednesday at 6PM - fire station 19 on Research Parkway
  - E. Crystal Group – Next meeting See calendar Interesting Hands on event. Bring specimens for identification
  - F. Faceting Group - Randy Hurley: May 6th at 6 PM, library 21C
  - G. Lapidary Group - Sharon: Two machines under repair. 5 working machines. Saturdays with good weather.
- VII. Liaisons
  - A. Scholarships – Maureen Richardson: Introduced Jake (last years winner) and is working on this years material.
  - B. Club Library – Frank and Ellie Rosenberg: No report
  - C. Claims – Mike McCarthy: All good
  - D. Hospitality – Eric and Sherry: 50th wedding anniversary tomorrow. Congratulations.
  - E. Field Trips – Kyle and Shelby Atkinson: See website
  - F. Lapidary Program and Club Loaner Equipment – Pat Malone: The machines are currently available.
- VIII. Unfinished Business – none
- IX. New Business — none
  - A. AJ 101 first and third Monday 6:30 to 9:00 first one is May 4th at Manitou Springs Library
  - B. Bill - GoFundMe - Every bit helps
  - C. Mike passed out Fair postcards
  - D. Explanation of our insurance coverage is needed.
  - E. Dan and others mention they cannot log into the Events page to sign up.
  - F. Dan - something about the Albaquidue club
  - G. Gold Prospectors Club - Poker Run
  - H. CSMS business cards - Are we out?
- X. Meeting was adjourned at 9:05 PM

### Respectfully Submitted

Phil Sevenants  
Secretary

Alex Field  
President

# CSMS Group Calendar

May '26	June '26						
13 May	10 June	Fossil Group	2nd Wed	6:00 PM	East Library	Kristine Harris Richard Villareal	719-593-1524 831-760-6985
7 May	4 June	Board Meeting	1st Thur	7:00 PM	Zoom	Alex Field	719-351-4897
5 May	2 June	Pebble Pups	1st Tue	4:15 PM	East Library	David St. John	719-424-9852
21 May	18 June	General Assy	3rd Thur	7:00 PM	Co Sp Christian Sch	Alex Field	719-351-4897
27 May	24 June	Jewelry Group	4th Wed	6:00 PM	Fire Station 19	Teri Fjellman	719-229-7759
28 May	25 June	Crystal Group	4th Thur	7:00 PM	Co Sp Christian Sch	Austin Cockell Kevin Witte (Alt)	719-323-4132
6 May	TBD	Faceting Grp		6:00 PM	Library 21c rm 6B	Randy Hurley	<a href="mailto:jrhurley2014@gmail.com">jrhurley2014@gmail.com</a>
By appt	By appt	Lapidary Grp	By appt	By appt	Sharon's Garage	Sharon Holte	719-217-5683
18 May	8 June	Photography	2nd Mon	6:30 PM	Call Fran	Fran Anderson	719-494-7776

## Community Events courtesy of the Colorado Scientific Society

**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/>

May 2026

CSMS Pick & Pack

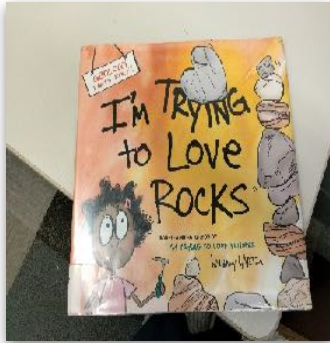
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fossilfun14@gmail.com

## Pebble Pups and Earth Science Scholars

April 7th Pebble Pups and Earth Scholars meeting at East Library was filled with several activities like making tiny, polished gems into perky boxes (Eric), real and fake mineral eggs, share and tell, and an amazing story read by Jen. Club members please encourage and tell the grandkids or kids to our meetings. Check it out at the library Bethany Barton.



## Fossil Quarry field trip at Florissant

Calling all Pups and Earth Science Scholars we will have a field trip to the Fossil Quarry in Florissant May 26th 10 am-12 noon. \$20 per hour cash only, 2 hours planned then go to the fossil beds museum and picnic. We are going to have premier stock only on the second day open this season. Sign up with Kyle at our website and let me know so we can inform how many are coming. I found a bird egg fossil, rose stems, and a leaf last pups field trip.



wonderwoman627 at Pixabay

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



wonderwoman627 at Pixabay

# The Front Row Perspective: Remembering John Harrington

By Steven Wade Veatch

Some people enter your life with a quiet gravity, pulling you into their orbit through shared curiosity and a steady presence. For me, that person was Colorado Springs Mineralogical Society (CSMS) member John Harrington.

I first noticed John at CSMS meetings in the 1980s. In a room full of hobbyists and experts, John was a fixture in the front row. A retired Air Force veteran and a skilled draftsman by trade, he brought precision to his passion for the Earth. He didn't just listen; he leaned in, his eyes locked on the speaker, absorbing every detail of the lecture before inevitably raising his hand to ask the pointed, insightful questions that only come from someone truly paying attention.

Our friendship took root quickly, anchored by a monthly ritual at Maggie's Restaurant on Pikes Peak Avenue. John was a man of consistency—he'd order a Coors and a bowl of chili every single time. As the steam rose from our bowls, the geologic map of Colorado expanded through his stories.

Between sips of beer, he'd tell me about the family farms in Michigan where he grew up and his "eye" for the Earth was first developed. He described how the plows would turn up more than just soil, unearthing Indian artifacts and coral fossils hidden in the glacial till. It was there, as a teenager standing in a sand blowout with his first arrowhead in hand, that his "front row" journey truly began.

When the local library couldn't tell him enough about the craftsmanship of those points, he taught himself the art of flintknapping.<sup>1</sup> John told me that in 1957 he enlisted in the U.S. Air Force, starting a career that spanned over twenty years and took him across the globe. Despite his travels, his passion for ancient crafts never waned. He once told me about a 1959 issue of *Natural History* magazine he'd found while serving in the Air Force; it contained the most sophisticated diagrams of stone tools he'd ever seen. He kept that same tattered issue as a reference for the rest of his life, carrying the lessons he learned at twenty into his seventies. As a Navy veteran myself, I found a kinship in his Air Force background; we shared a language of military service and endless stories.

John's journey is a testament to the power of curiosity, transforming a childhood hobby into a sophisticated, lifelong pursuit of a dedicated study of geology, paleontology, archaeology, flintknapping, and photography.

## A Masterclass in the Field

John's lessons were not confined to the booth at Maggie's; he wanted to show me the stories of rocks and fossils in the field. He became my guide to the hidden corners of Colorado Springs. He led me to the ancient petroglyphs etched into the sandstone at Garden of the Gods. A few miles beyond the old Sears store on Highway 115, he showed me ripple marks from ancient shores preserved in stone, along with dinosaur tracks, and unusual sedimentary structures resembling "inverted streams," or casts of ancient stream channels that are captured in positive relief in the sandstone.

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<sup>1</sup> Flintknapping is the craft of shaping stone—typically flint, chert, or obsidian—into tools or weapons by striking or pressure-flaking it.



**Figure 1.** A view of the site off highway 115 reveals the full scale of this geological marvel, showing the dinosaur tracks and ripple marks as they scale the vertical sandstone wall. From this distance, the rhythmic pattern of the ripples and the steady path of the prints highlight the incredible transformation of this ancient shoreline into a towering, nearly vertical rock face. *Photo date 2008 by S. W. Veatch.*

Continued ...



**Figure 2.** These inverted structures defy traditional logic, leaving experts locked in a heated debate over their origin. There's nothing quite like hearing world-class geologists clash over a mystery this big. To find the truth, we're heading back into the field for more answers. *Photo date 2008 by S. W. Veatch.*

Continued ...



**Figure 3.** This close-up reveals the structures shown in the image are offset by “mini faults” that formed during Laramide deformation of the beds. Who would know all of this was just down the road from the old Sears Southgate store? *Photo date 2008 by S. W. Veatch.*



**Figure 4.** This displaced block of sandstone reveals something that has segmented joints (none are equidistant), perhaps an ancient fossil plant. *Photo date 2008 by S. W. Veatch.*

I remember a trip of the CSMS Fossil Study Group that John led with the same quiet authority he used to describe a map. We assembled one special morning on Rampart Range Road. John began to tell us what we would find and how to collect the specimens. It was as quiet as a coma as John spoke. At this spot, the Lower Pennsylvanian Glenn Eyrie Formation stands exposed like the end of a tattered history book. Most of us arrived with heavy rock hammers, ready to bash our way into the 320-million-year-old stone. But John stopped us. He knew this layer—a fragile remnant of a prehistoric sea—required a different approach to collecting specimens.

Under his guidance, we traded steel for straw. I watched as the group followed his lead, kneeling in the dirt with whisk brooms. It was a masterclass in patience; by meticulously brushing the weathered

surfaces, we revealed the intricate skeletons of ancient sea urchins (echinoids) nestled in the shale. Because of John’s insistence on appropriate care and stratigraphic detail, we recovered the fossils with their fine spines and plates intact—delicate treasures that a hammer would have turned to dust.



**Figure 5.** This spine fragment (15 mm in length) once attached to the tubercle of a sea urchin was unearthed from the Glen Eyrie Formation by John Harrington. These specimens were everywhere you dusted with a whisk broom. Fossils popped up all over the place! *Photo by John Harrington. Date unknown.*



**Figure 6.** A sea-urchin spine fragment (9 mm in length) detached from the body. This large, thick spine was used for defense and sometimes movement. *Photo by John Harrington. Date unknown.*

If the Rampart Range was a lesson in micro-patience, our next adventure required a macro-lens from the sky. Our most ambitious expedition yet involved chartering a small plane to study the Tepee Buttes—rugged, conical hills formed by ancient methane seeps—from the air.

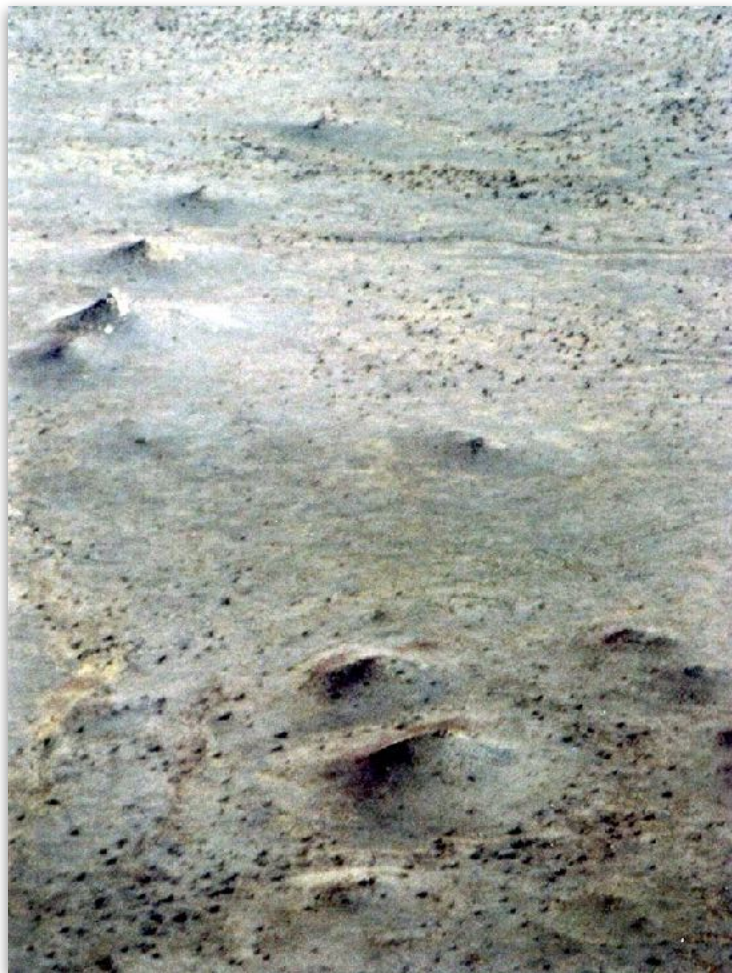


**Figure 7.** The propeller is about to spin, and the energy is electric at this small plane being readied at the Colorado Springs airport! John Harrington, seen waving enthusiastically on the left, is gearing up for a high-stakes aerial reconnaissance flight organized by Steven Veatch. This mission is all about capturing the rugged beauty of the Tepee Buttes in El Paso County from a breathtaking bird's-eye view. Standing alongside John are the expert pilot and a fellow photographer, both ready to brave the skies. Veatch is already in the plane. The single-engine aircraft is on the tarmac, moments away from roaring down the runway and into the wild blue yonder. For Veatch and Harrington, the adventure is just beginning. *Photo date 2005 by S. W. Veatch.*



**Figure 8.** Rising abruptly from the plains east of Interstate 25, between Colorado Springs and Pueblo, Colorado, are cone-shaped hills of limestone and shale known as the Tepee Buttes. These distinctive features formed by carbonate precipitation around spring vents on the sea floor during the Late Cretaceous Epoch — between 75 and 76 million years ago. *Photo date 2000 by S. Veatch.*

**Figure 9.** Low oblique view of Tepee Buttes aligned along a fault. Fault zones control the placement of the buttes, with butte fields commonly aligned in clusters along block faults or fracture zones formed during the Laramide uplift. These buttes near Boone, Colorado (32 kilometers east of Pueblo) mark sites where methane-rich fluids seeped out of the seafloor. The airplane used for the project was a Cessna 172 P, flown over the site high enough to capture the target in a single frame. *Photo date 2000 by S. Veatch.*



Scheduling flights with John required a keen eye on the Colorado sky. We blocked out several early morning windows, hoping to catch Pikes Peak when the "Purple Mountain Majesties" were bathed in a crisp, golden hue (plus when the low sun brought out the shapes of the Tepee Buttes), and in quiet air before the afternoon thermal turbulence rolled off the peaks. But the most memorable part of the trip happened before we even left the tarmac.

The plane was a tiny, cramped thing, and the cockpit door seemed to be designed for someone half our size. As I watched the pilot turn and help maneuver our gear, I wondered how John was going to manage the climb. He didn't complain, and he certainly didn't ask for a larger plane. He simply looked at the narrow opening, looked at me, and with a deadpan expression, unstrapped his prosthetic leg.

He handed the limb to me as if he were handing over a spare camera lens. While the pilot sat speechless, John hoisted himself into a back seat and buckled up, ready for the mission. To him, it wasn't a "disability" or a dramatic moment; it was just a practical solution to a spatial problem.

Once we cleared the runway, we banked west, leaving the Springs behind and headed for the sprawling open-pit mines of Cripple Creek and the legendary "Bone Wars" territory of Garden Park. From the air, the Morrison Formation—famous for Stegosaurus and Allosaurus fossils—revealed itself in long, colorful ribbons of earth that you simply can't appreciate from the ground.

## **Legacy of Curiosity**

John's influence on my life eventually spilled over the edges of our geologic maps. He pulled me into the Colorado Archaeology Society, sparking a fascination with the human story that rivals my love for the fossils themselves. In exchange, I took him to the water's edge—a shoreline, substituting the dig site's dust for the tranquil setting of a trout-filled lake for a fishing trip.

John was there for one of my milestones, too. When I received my MS in Earth Science from

Emporia State University, I looked out at my graduation party at the Garden of the Gods and saw John. He had a front-row seat and was a proud witness to a journey he had helped cultivate—a navigator who had seen me through the turbulence of hard study and helped me find my own "Purple Mountain Majesties."

John passed away a few years ago, but his presence is woven into the landscape. I feel it whenever I pass a familiar outcrop or feel the serrated edge of a Jurassic dinosaur tooth or look at fossils. He taught me that being a student of the world doesn't end with a career or retirement; it is a lifelong commitment to learning.

I still remember him best this way: a cold Coors, a steaming bowl of chili, endless conversation, and a mind that never stopped searching for the "why" behind the horizon. He showed me that no matter how much you think you know, there is always a reason to keep your eyes locked on the program speaker and make sure you get a seat in the front row.

Acknowledgments: I would like to express my sincere gratitude to Bob Carnein for his meticulous review and insightful comments on this paper. His expertise and thorough feedback were instrumental in refining the technical accuracy of the manuscript. Any improvements in the clarity and depth of this work are due in large part to his generous assistance.



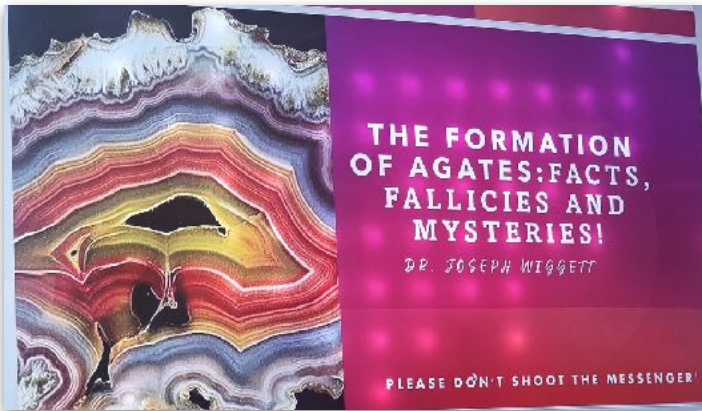
**About the author:** Steven is a geologist who joined the CSMS when he was 10, in 1965. The club met at that time at the old IBEW hall near the west side of the city. He was inducted into the Rock-hound Hall of Fame in 2015. His complete profile is available at:

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

## New Faceting Machine for Club Use



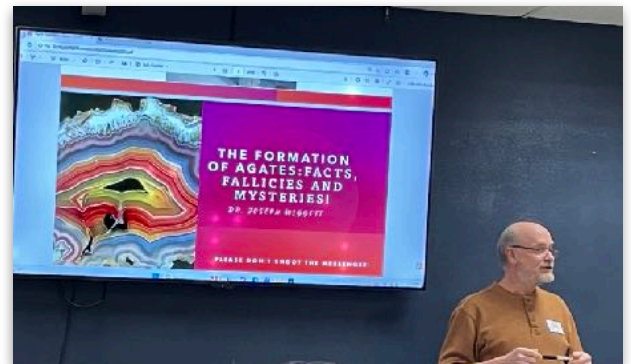
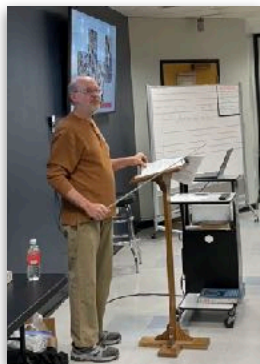
The Faceting Group has taken delivery of the new club faceting machine and is checking it out. The image to the left is a test cut on a clear quartz from Mt Ida. The May 6th meeting will cover introduction to the Zristal-tec 87 Faceting machine, including setup and operations of the machine. The machine will be setup during the gem show in June as well.



## General Assembly 16 Apr 26

50 hardy rockhounds gathered at Colorado Springs Christian School on Thursday, April 16, for the CSMS general assembly, to hear Dr Joe Wiggett present "The Formation of Agates - Facts, Fallacies and Mysteries." Joe's presentation was fascinating! Thank you Joe.

*Pics and reporting by Frank Rosenberg and Phil Sevenants*



## Thunderclappers, Mercury Minerals, and Up Against the Wall

Mike Nelson  
csrockguy@yahoo.com

*Yeah, gettin' by on gettin' by is my stock-in-trade  
Living it day-to-day,  
picking up the pieces wherever they fall  
Just lettin' it roll, lettin' the high times carry the low  
Just living my life easy come, easy go*

— “Getting’ on” from a 1993 album. How is this album related to mercury minerals?

In my undergraduate mineralogy class I learned, as a matter of curiosity, that a student could use a blowpipe and Bunsen burner on pieces of cinnabar (HgS) and produce droplets of a silver liquid—native mercury. That little tidbit has stuck with me for over 60 years and was one of the “things” that really turned me on to geology. I also learned, in a chemistry class, that one could partially “dissolve” a copper penny in nitric acid and “slim it down.” Take some mercury, it seemed very common in the chem lab, and caress the slimmed down penny and presto, one had a penny that resembled a dime. The more adventurous students would then use the new coin in the ten-cent soda machine and out popped a bottle of R.C. Cola! Yep, that is what I learned in “college” — just gettin' by on gettin' by ... just lettin' it roll.

Thirty years down the road I was doing early morning decanal work in my office in Missouri and wondered about the wail of approaching emergency sirens. Oh boy, they pulled into my territory—Science Hall, and here came the emergency horns/sirens booming out in the Hall itself and students wearily heading out the doors (most faculty just hid in their offices). I thought, “oh crap, a student is ticked off at their professor and is going to blow up the chem lab.” About that time, in came, not the SWAT team, but the boys and ladies in their space suits. It turned out that one of the lab students dropped an old

mercury thermometer on the floor and some droplets of mercury spilled out. One of the space suit boys said something like, “how dangerous is it? What do you think we ought to do?” As I nabbed a pair of gloves, I said, “grab that heavy, small plastic bag and follow me.” I walked over to the broken thermometer, reached down and grabbed it, and dropped it in the bag. All I could spot was three mercury droplets on the floor, so I corralled them on a sheet of paper and then into the bag. I told the space suit guys to turn off that stupid alarm and go back to the station and have a cup of coffee. I took the bag down to the storeroom and told the attendant to put this mercury into the vault and immediately round up the remainder of the mercury thermometers for disposal. We had been working slowly on their disposal since it was a fairly expensive proposition. I returned to my office, wrote up the required report, and stuck a note into my file labeled *The Life of a Science Dean*.

Another 30 years down the road and I was still playing with mercury! I had pulled out a Perky Box mount containing mercury and decided a better “look see” was in order. The mercury mineral in the specimen was calomel, a mercury chloride ( $[\text{Hg}_2\text{Cl}_2]$ ). It seemed to fit in with my other mercury related specimens: montroydite, galkhanite, rouxelite, tiemannite, luanheite, cinnabar, schuetteite, coloradoite, kleinite, and laffittite.

Calomel, the mercury chloride, is one of the best-known minor mercury minerals due to its use in thunderclappers. More on those later. Mercury occurs in two different oxidation states plus Hg elemental mercury: + 1 Hg or mercurous mercury; +2 Hg mercuric mercury. A note here: the +1 mercurous mercury always occurs, as a chem buddy tried to explain, as a dimer where two identical mercury molecules are joined together by weak bonds. Therefore, the monovalent mercury is written as  $\text{Hg}_2^{++}$  and is different than the bivalent mercury  $\text{Hg}^{++}$ . So, out

of curiosity, I asked about the difference—physical properties are different, chemical reactivity is different, there is a difference in stabilities. "OK, that's good for now," I whimpered. My friend is a physical chemist, and those scientists live in an alternate world.

Mercury<sup>++</sup> is the most common oxidation state in nature and Mercury<sup>+</sup> dimers producing compounds are rare. However, the mercurous mercury compound Hg<sup>2++</sup>Cl<sub>2</sub> is the most common monovalent compound and is known as the mineral calomel or mercury chloride. I know, confusing! The most common mercuric mercury (Hg<sup>++</sup>) in the rockhound world is the mineral cinnabar (HgS), mercury sulfide. In cinnabar the metal mercury has a charge of ++ and the non-metal sulfur a charge of - - so cinnabar comes out as HgS. Probably just as well that: 1) I dropped out of chemistry after three semesters and did not have an opportunity to take P Chem; and 2) my career did not involve any sort of "teaching" chemistry other than elementary and cursory discussions in Geology 100.

Calomel, like most mercury minerals, can be very difficult to identify, especially in small amounts. Most of the ole pluggers like me use color and collecting locality as major parts of our sleuthing to make reasonable identifications. Mineral identification books and web sites tell me that calomel may be gray, white, yellow white, yellow gray, ash gray or maybe brown in color. Not much help here. Like many mercury minerals, if calomel is exposed to light (sunlight as well as lights in a home or office) the mineral darkens. According to MinDat the darkening is likely due to the formation of nanoparticles: see (<https://mineralcare.web.ox.ac.uk/article/cinnabar>). That tidbit is for trivial information but is of little help in identification. Now, perhaps here is a winner — the monovalent mercurous mercury minerals turn black when they come into contact with ammonia. OK. Maybe some help here. As for

close relatives to help with identification, calomel is a member of the Calomel Group along with kuzminite, a mercury bromide chloride and moschelite, a mercury iodide. Whoda would have guessed that tidbit? Not much help here!

So now we move on to collecting locality, local geology, and MinDat descriptions. The calomel specimen in my collection (Ex, Mineralogical Research Com.) was collected from the Mariposa Mine, Terlingua, Texas. Anytime one hears the name Terlingua they think of nowhere West Texas, gateway to Big Bend, mercury mines, a ghost town, the Starlight Saloon, and Jerry Jeff Walker.

The Terlingua Mining District has a fantastic collection/remnant of the mercury mines and mining era artifacts scattered across the desert. For a great story see *Chasing Quicksilver History in Beautiful Big Bend* published in Texas Highways (October 15, 2017). The District is also the third-largest mercury producing area in the United States although it has been shuttered since 1973. According to MinDat, 50 valid minerals are known from the District including nine Types (the Type Locality). All Types are mercury minerals and include one of my favorite names—terlinguacreekite. In addition, seven other mercury minerals (non-Types) are known from the District including the major elemental mercury producer, cinnabar. So, the mines at Terlingua are full of, well maybe just contain, numerous mercury minerals.

Cinnabar was known, and used by, Native Americans (body ornamentation and pictographs) centuries before the arrival of prospectors and miners in Terlingua. According to the local sources, cinnabar produced the first flask of mercury (76 pounds) from Terlingua in 1884. From that date until the early 1970s mercury was produced from several (? 25-40) mines. The boom periods seemed to be right before, after, and during WWI and then during

WWII. After the War some war-torn European countries dumped large amounts of mercury into the world markets and greatly depressed prices. In Texas, mining expenses overpowered income and most mines shut down. For the next 25 years various mines would start production for a year or so and then close down and by 1973 the last production ended.

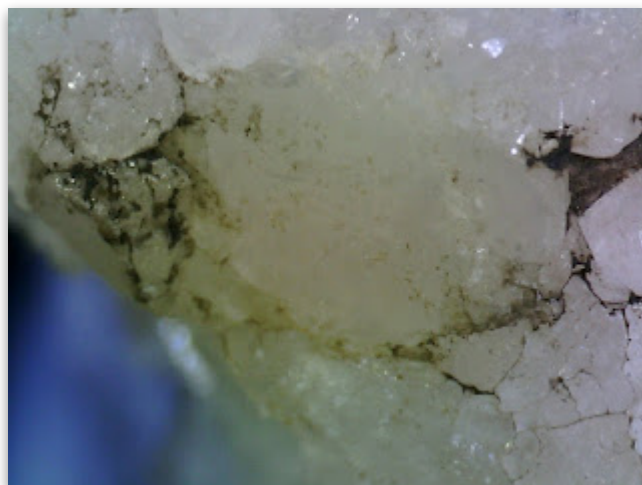
My specimen of calomel is quite small and found in a vug appearing in white crystalline calcite. The crystals are pale red in color but have darkened considerably to a dark cherry red. They appear to be small tabs and elongated “rectangles” with some being completely encased in calcite. The pale red crystals have a subdued resinous luster while cherry red crystals have a shiny subvitreous luster. Hardness and streak are impossible to determine. Mineralogical Research placed a sticky arrow on the specimen that pointed to, and specified, calomel.



**Above:** A vug in the crystalline calcite filled with calomel. Width vug FOV ~2 mm. *Photomicrograph by Mike Nelson.*

There are a few scattered submillimeter splotches and smears of red material on the calcite including some very small prismatic crystals. I am guessing commancheite, a complex mercury oxychloride-bromide:  $\text{Hg}^{2+}_{55}\text{N}^{3-}_{24}(\text{NH}_2, \text{OH})_4(\text{Cl}, \text{Br})_{34}$ . However, I would not bet the farm on that identification, but

the Mariposa Mine is the Type Locality for that very rare mineral.



**Above:** Commancheite? Photomicrograph FOV ~2 mm. *Photomicrograph by Mike Nelson.*

As for thunderlappers, many decades ago in a small grade school in central Kansas students spent many hours studying U.S. history, and especially the history of the late 1700s and the formation of the United States. At least we learned about history as the “facts” were presented in the 1950s. As a young student at that time, I was fascinated by events around and during the Revolutionary War, including the construction of the Declaration of Independence. I tried to write like John Hancock and poured over the signers wondering if I had any long-lost relatives on that list. Later in life I was able to trace my lineage back to a man named Francis Cook who actually came to this country on the

Mayflower in 1620. Later heroes include one Stephen Percival who is listed as a member of the Cumberland County Militia—Hatch’s Company of Minute Men [New York] during the Revolutionary War. So, no signers of the Declaration (one signed Mayflower Compact) but one James Percival, who once heisted a small boat and ended up paying a hefty fine, one who served his country by fighting in the War of Independence, and one Elizabeth Morse, AKA Witch of Newbury, who was convicted of witchcraft in the 1690s. So now I know the source of some of my traits.

Now, back to a Physician by the name of Benjamin Rush who was a signatory on the Declaration of Independence. He was a Pennsylvanian delegate to the Continental Congress and lived in Philadelphia. Rush was married and the father of 13 children. During the War Rush served as the Surgeon General of the Continental Army and after the War worked in a large variety of positions but seemed most happy teaching students about medicine and chemistry. He also tutored Meriwether Lewis before his journey with William Clark in the Corps of Discovery Expedition as Jefferson wanted Lewis to be the Corp’s “medicine man.” Rush and Lewis constructed a medical supply bag that included 50 dozen doses of the patented Dr. Rush’s Bilious Pills. These little pills contained over 50% mercury and were an “explosive” laxative, hence the common name of thunderclappers. The men of the Corps consumed, by necessity, a diet rich in meat and crappy water and therefore suffered “stomach distress.” So, they often resorted to the thunderclappers as a means to loosen their bowels and clean them out. Of course, the mercury had a very detrimental effect on the men not the least of which was causing teeth to fall out of the gums and messing up the internal organs.



**Above:** A modern explanation of Dr. Rush's pills that contained ~10 grains of calomel and ~10 to 15 grains of jalap, both potent laxatives that opened up the bowels. Photo courtesy of *The Disappearing Spoon* on *weebly.com*.

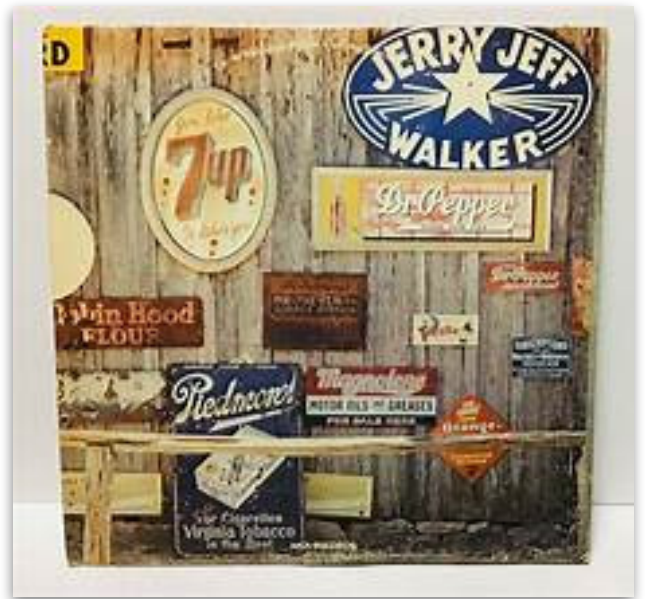
So, what about my 1993 album question? Well, today Terlingua, with a permanent population of less than 100, is a well-known tourist destination and serves as the drop off point for visitors to Big Bend National Park with last stop food, drink, and lodging. Terlingua also has that old hippie, country, lost in the desert, Devil may care, cold beer, and Willie Nelson vibe. Well, what better publicity for Terlingua than a 1973 funky rock and blues album by Jerry Jeff Walker entitled: VIVA TERLINGUA. The album included the giant hit, Up against the wall, the anthem of south Texas (and many other beer halls).



*He was born in Oklahoma  
 His wife's name's Betty Lou Thelma Liz  
 And he's not responsible for what he's doing  
 Cause his mother made him what he is  
 And it's up against the wall*



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.rmfmts.org](http://www.rmfmts.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.



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  - See pic
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## Ice Age

*By Steven Wade Veatch*

Orbital shifts	Snow	Accumulation	Ice	Glacier	Advance
Ice fields	Ice flows	Cirque	Chatter marks	Till	Moraine
Terminal	Melting	Retreat	Kettle lake	Tarn	Outwash
Streams	Eskers	Stagnation	Permafrost	Bog	Fen
Swale	Wind	Dunes	Paleolithic	Migration	Fire
Cave art	Chert	Artifact	Hunting	Mammoth	Extinction



**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

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**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](http://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](mailto: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](mailto:pickandpackeditor@gmail.com)



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**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](http://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](http://www.amfed.org)
- Rocky Mountain Federation of Mineralogical Societies (RMFMS) [www.rmfmfms.org](http://www.rmfmfms.org)