

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. 3
April 2026

CSMS General Assembly

Thursday, April 16, 2025 7:00 PM
Colorado Springs Christian School
4855 Mallow Road

~ Joe Wiggett ~

“The Formation of Agates: Facts,
Fictions and Mysteries”

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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ag·ate /'agət/

noun: **agate**

1. an ornamental stone consisting of a hard variety of chalcedony, typically banded in appearance.

Joe Wiggett will be presenting on the formation of Agates: facts, fictions and mysteries. The closest agates to us are south of Hartsel and over in the Poncha Pass area. Nothing spectacular, but fun.

Joe was just in New Mexico and came away with several hundred pounds of agates. The Luna area was incredibly productive. He will be bringing some to show off and to use as examples for structural features we will be discussing.



Images from Oxford Languages <https://languages.oup.com/google-dictionary-en/>

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



Rockhounds!

Well, the weather is warming up now that we're in April, so I hope you're starting to get out into the mountains and hunting for cool minerals or fossils, perhaps cleaning your minerals, taking pictures of amazing specimens, or shaping them into something that can be used for your own incredible jewelry.

Field trips have also begun for the year, so please go check out our field trip website (<http://www.csms.tectonictreks.com/>) and sign up for an upcoming trip! We've got a few new trips on the list already, and more will be added soon. Remember, you have to be an active member on the web site before you can sign up for CSMS field trips.

Also, I want to mention something important from the Fundraising Committee. Fundraising Committee Chair, Bill Myers, has just set up a GoFundMe page for the CSMS Building Campaign which you can check out and donate to at this link: (<http://spot.fund/jt8b7b8sc>). If you feel like getting involved in the CSMS building campaign, this is a good way to start. On this page you can safely donate money to this long-term project for our society; really this is for future club members, so please do send in a donation today!

For those of you who are new to the CSMS and want to get involved in one area or another, you have a few options for getting involved: First, you can email me directly (my email address is below in the signature) and ask about the area you're most interested in. Second, check out our website: (<http://www.csms1936.com/>) and look into the things going on around the CSMS. You can also join us at our monthly general assembly meetings, and meet leaders from various areas of the society in person. Lastly, if you're interested in starting something new within the club yourself—talk to me or one of the other leaders of the CSMS—we're always looking to add new options, classes, and events for our members to learn and enjoy. After all, this society is what we make it together!

Finally, come join us at our next General Assembly meeting on Thursday April 16, at 7 pm, at the Colorado Springs Christian School at 4855 Mallow Road, Colorado Springs, CO 80907. The speaker will be club member Joseph Wiggett, and he will be presenting a special talk about Agates. Come join us, bring a snack, and some minerals to share!

Warm Regards,
Alex

Alexander Field
alexfield1@gmail.com

Secretary's Spot

Phil Sevenants



CSMS General Assembly Minutes

7 PM, Thursday Mar 19, Colorado Springs Christian School

Address: 4845 Mallow Rd, Colorado Springs CO 80907

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

Agenda:

- I. The Meeting was called to order by our Treasurer, Kevin Witte at 7:05 PM
- II. Kevin led the club in the Pledge of Allegiance
- III. Speaker Anthony Maltese - Senior Curator for Research, Exploration and Morphology (ended 7:45, questions until 7:53)
- IV. Meeting -
 - A. There a few new and prior members in attendance and Kevin invited all new members to take home a mineral specimen tonight
 - B. Attendance was 48
 - C. We gave away [] mineral specimens as a door prize.
- V. Officer Reports
 - A. President – Alex Field: No report
 - B. Vice President – Shane Riddle: No report
 - C. Treasurer – Kevin Witte: Donation money coming in (\$1000 recent + some smaller)
 - 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
- VI. Satellite groups
 - A. Pebble Pups Group – David St John: Mining Museum, Stem, and other. Thank you for donations to Rosenbergs.
 - 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: 4th Wednesday - fire station 19 on Research Parkway
 - E. Crystal Group – Next meeting See calendar
 - F. Faceting Group - Randy Hurley: April 8th at 6 PM, library 21C
 - 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.
- VII. Liaisons
 - A. Scholarships – Maureen Richardson: No report
 - B. Club Library – Frank and Ellie Rosenberg: No report
 - C. Claims – Mike McCarthy: All good
 - 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.
- VIII. Unfinished Business – none
- IX. New Business – none
 - A. Bill Meyers - Fund raising: Find a facility to meet our needs. Donate button. Has been used, thank you. Opened GoFundMe, Please use your social media to get the work out.
 - B. AJ 101
 - C. Mike passed out Fair postcards
 - D. Explanation of our insurance coverage is needed.
- X. Meeting was adjourned at 9:00 PM

Respectfully Submitted

Phil Sevenants
Secretary

Alex Field
President

CSMS Group Calendar

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

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/>

1961 GEM AND MINERAL SHOW

In May 1961 the Society held a Gem and Mineral Show in the Club House at 1004 S. Tejon. Exhibits valued at more than a quarter million dollars were on display and the more than two thousand persons viewing the show were greatly thrilled at the magnificent gems. The show last two days and the picture at left shows a part of the tremendous crowd on the last day of the show. The exhibit in the foreground is that of Bob Chadborne, followed by that of Clarence Coil and Art Reece. The exhibit at the far end of the table is that of Chris and Dorothy Christensen. Other exhibitors not shown were Ray & Vi Ziegler, John Baker, Bernice and Frank Bader, The Walchers, Bob and Dorothy Keithley, Mildred Hawthorne, Max and Dorothy Fillmore, Stan and Dorothy Young and Gale Zinn.



Above: This excerpt from the November 1961, *Pick | Pan Reporter* was submitted by CSMS member Tina Cox in celebration of the CSMS 90th anniversary. *Courtesy of Regional History & Genealogy, Pikes Peak Library.*



fossilfun14@gmail.com

Pebble Pups and Earth Science Scholars

Luck of the green rocks, minerals, and fossils. Pebble Pups meeting on March 3, 2026 had a very apparent theme. We learned that the element of iron causes the color of amazonite, our famous Colorado mineral, to be green. Other elements that cause green color are chromium (emerald), copper (malachite), and Iron (vivianite). I also did this lesson for senior rockhounds at Sunny vista assisted living center this month.



Mining Day

Mining Day at the Western Museum Mining and Industry (WMMI) March 21, 2026 was a fun day to support our partners at the museum. Go to www.wmmi.org to explore this amazing museum, or attend a STEM event this year.



Florissant Quarry

Field trip with club at the Florissant Quarry on May 26th 10 AM - 12 PM cash only \$20 per hour (40 dollars) this is the second day open for this season with premier material for our club. Please sign up with Kyle on website and let me know I will be there for the pups/scholars.

Next Pup meeting 4/7 East Library special event 4:15 PM - 5:15 PM

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



wonderwoman627 at Pixabay



wonderwoman627 at Pixabay

Discover Family Fun and Hidden Treasures at the Pikes Peak Gem, Mineral & Jewelry Show

By Lisa Cooper



Quartz var. Amethyst, Molas Pass, Silverton, CO

Each year, rockhounds, collectors, and curious families gather in Colorado Springs for one of the region's most anticipated events—the Pikes Peak Gem, Mineral & Jewelry Show. Sponsored by the Colorado Springs Mineralogical Society for 62 years, this beloved show celebrates the beauty, science, and artistry of the Earth's treasures with an experience that is both educational and inspiring.

The 2026 show will be hosted June 5-7, at the Norris Penrose Event Center, 1045 Lower Gold Camp Road, in Colorado Springs, Colorado. The theme for this year's show is Southwest Colorado Minerals. The show will feature around 60 vendors offering an impressive selection of gems, minerals, fossils, meteorites, crystals, hand-crafted jewelry and decor, and more. From Colorado-mined

specimens to pieces sourced from around the world, the show offers something for seasoned collectors and first-time visitors alike. Attendees can browse one-of-a-kind artisan creations, discover rare geological finds, and connect directly with knowledgeable dealers and makers.

Beyond shopping, the show invites visitors to dive deeper into the fascinating worlds of mineralogy, paleontology, and jewelry arts. Live demonstrations throughout the event showcase specialized skills such as faceting, lapidary work, and wire wrapping, offering a behind-the-scenes look at how raw materials are

transformed into finished pieces.

Educational exhibits

highlight everything from Colorado minerals and petrified wood to fossils and intricate marble and obsidian sculptures by renowned local artist Francisco Sotomayor.



An exhibit of self-collected Colorado specimens.



Visitors discover the thrill of finding treasures with the Gold Prospectors of Colorado.

One of the standout features of the show is its interactive and family-friendly programming. Young visitors can take part in a scavenger hunt, explore hands-on learning opportunities, and connect with the Pebble Pups and Junior Earth Science Scholars group. Kids can also try their hand at gold panning on Saturday and Sunday, guided by experts from the Gold Prospectors of

Colorado — a memorable experience that brings history and geology together.

For those drawn to Earth's ancient past, representatives from the Friends of the Florissant Fossil Beds and the Western Interior Paleontological Society will be on-site over the weekend, sharing insights into fossils and prehistoric life. Meanwhile, collectors and enthusiasts can explore more than 20 exhibits featuring specimens from private collections, including a captivating display of fluorescent minerals that glow under ultraviolet light — an unforgettable visual experience.

Adding to the excitement, guests can register at the Hospitality table for door prize drawings and place bids on unique specimens at the silent auction. Winners for both are announced hourly, offering plenty of chances to take home a special piece.

Whether you're searching for a striking addition to your collection, eager to learn a new skill, or simply looking for a fun and educational outing, the Pikes Peak Gem, Mineral & Jewelry Show offers a rich and rewarding experience. It's a celebration of natural beauty, craftsmanship, and community — one that continues to inspire wonder year after year.

For more information, visit the Pikes Peak Gem, Mineral & Jewelry Show website, where you'll find show hours, admission, venue directions, a vendor list, and more!



Friends of the Florissant Fossil Beds and the Western Interior Paleontological Society share insights into fossils and prehistoric life.

Photo credit: Quartz var. Amethyst, Molas Pass, Silverton, CO. Specimen collected by Austin Cockell. Photo by Mark Cross, used with permission.



Glacial Erratic

A Haiku

Stranded by the stream
granite etched by ancient ice
warms in summer light.

By Steven Wade Veatch



History of the Colorado Springs Mineralogical Society



through the Chamber of Commerce in Colorado Springs. In April 1951 a two day mineral show was held in the City Auditorium attracting more than a thousand guests. In 1953 the Society presented the Pioneer Museum of Colorado Springs an elaborate collection of mineral specimens which are maintained by the Society to this date. Mr. Tim Anglund was project chairman for this project. In July 1959, the Society undertook a project to provide specimens and mineral displays at the Girl Scout International Encampment north of Colorado Springs. Mr. Clarence Coil was appointed Chairman of the project and through his efforts of moulding a sound organization, the society received many fine comments on the displays. In May 1961 the society held a formal mineral show with an attendance of nearly two thousand persons during the two day exhibit. Mr. Anthony Johnson was chairman of this project.

Many members of the society have elaborate mineral collections valued at thousands of dollars, which today would be impossible to replace. However, perhaps the most interesting mineral exhibit is that of Mrs. Dorothy Young. Mrs. Young has fashioned a paint from various minerals and has painted many scenic outdoor scenes. The most amazing and interesting part of her displays is that when placed under a Black Light, the colors fluoresce and bring the scene into a dimension all its own.

Past Presidents, in addition to Mr. Lazard Cahn, who have faithfully served the society are:

Mr. Willett R. Willis	1937
Mrs. Edward L. Kernochan	1938
Mr. Willis R. Willett	1939
Mr. Willard Wulff	1940
Mr. Ralph Monnell	1941
Mr. W.E. Davis	1942
Mr. George White	1944
Mr. Otis Dozier--Chadbourne	1945
Mr. J.P. Osborne	1946
Mr. Carl Matthews	1947
Mr. Lamont Keller	1948
Mr. Willard Wulff	1949
Mr. Willett R. Willis	1950
Dr. Richard Pearl	1951
Mr. Tim Anglund	1952
Mr. John Alexander	1953
Mr. Russell Walcher	1954
Mr. Stanley Young	1955
Mr. Raymond Ziegler	1956
Mr. Jack Eden	1957
Mr. Jack Eden-Ray Ziegler	1958
Mr. Max Fillmore	1959
Mr. Max Fillmore	1960
Mr. Robert D. Keithley	1961

The society is proud of its history and is moving forward to even greater efforts. Plans are materializing for the establishment of a reference library, the construction of a club house and greater community relations through an annual mineral and gem show. The history of tomorrow will measure our progress today.

In 1959 the society inaugurated an annual award to the outstanding society member. The 1959 award was presented to Mr. Clarence Coil for his tremendous job with the girl scout jamboree. The 1960 award went to Mr. Raymond F. Ziegler for his many contributions to the society. The 1961 award will be presented in December of this year.

Appreciation of the Pikes Peak Region as a Geologists' paradise, its potentialities as a source of rare minerals and the possibilities of rocks and minerals as subject of intense study, absorbing interest and unusual beauty is the aim of the Colorado Springs Mineralogical Society.

The Society was formed when an interested group met November 24, 1936, at the home of Dr. E. L. Timmons. After discussion it was voted to organize with the following persons as charter members: Lazard Cahn, Mrs. E.L. Kernochan, Miss Billie Bennett, Dr. E. L. Timmons, O.A. Reese, R.D. Wilfley, Willard Wulff, H. E. Mathias, George White, Leonard Sutton, Ralph Monell, Willett R. Willis, Cecil Graves, William E. Davis, Sigfrid Gross, Arthur Roe, Frank Young and Edwin Over.

Cahn was elected as the honorary president; Willis the acting president; Dr. Timmons, vice president and Graves, Secretary-Treasurer.

This action was the outgrowth of the interest of a group of people studying microscopic crystals under the instruction of Cahn. Cahn was known as one of the world's three greatest mineralogists and crystallographers. One of the rare Franklin, N.J. minerals was identified by him, and named cahnite for him. Many specimens difficult of identification had been sent by the great museums to Cahn for positive identification. Cahn's death, on May 22, 1940 was a real loss to the mineralogist of this country; and more particularly to his friends and associates in the Pikes Peak region. He was the real inspiration behind the formation of the new society.

The society has grown from a mere handful of members at its founding to near 200 at present. For several months the meetings were held in homes of the different members, but as interest and membership increased, the meetings were successively moved to Lennox House on the Colorado College campus, the Wulff Shoe Store, and the IXL Building and finally to the Recreation Hall of Alexander Film Co. In 1959 the Society voted to move to its current meeting place, 1004 South Tejon, Colo Springs. Visitors are welcome.

The Society, throughout its long and glorious history has done much to promote the Pikes Peak Region and the minerals of the State of Colorado. Some of the world's greatest micro-mount collections are the property of former society members. The collections of Willet R. Willis, Dr. E. L. Timmons, Cecil Graves and Mrs. E. L. Kernochan, who also has the great Cahn collection, are unsurpassable and have been on display many times. Another of the charter members, O.A. Reese has had the great honor of having his original collection accepted by the Museum of Wayne College, Waynesboro Pennsylvania. Among the more recent members who has achieved fame is Dr. Richard M. Pearl, Professor of Geology at Colorado College, who has written several books on minerals. Perhaps his most widely read book among local members is "Colorado Gem Trails and Mineral Guide".

Many worth while projects were undertaken by the Society during its long history. As early as 1939 mineral displays were exhibited

Above: This excerpt from the November 1961, *Pick & Pan Reporter* was submitted by CSMS member Tina Cox in celebration of the CSMS 90th anniversary. *Courtesy of Regional History & Genealogy, Pikes Peak Library. Used with permission. Editor's note: the article begins in the right-hand column and continues in the left.*

Lazard Cahn, Honorary President

Franklin, but when it did it more than justified my faith that it was a new species. It proved to be a boro-arsenate of calcium—a type of chemical compound hitherto unknown among minerals. The full description was published in 1927. Another decade passed and again Mr. Cahn discovered a new fact about this mineral. On one of his micromounts are crystal faces which prove cahnite to have a type of symmetry not before found on any mineral, and on but a single substance. It belongs to the disphenoidal class of the tetragonal system. This observation, verified by me in 1938 but not published, gave Cahn intense pleasure and made him more than ever proud of his namesake.

About the year 1920 Cahn became closely associated with Mr. Clarence Bement of Philadelphia, who after the sale of his magnificent collection of minerals to the American Museum of Natural History had taken up enthusiastically the assembling of a collection of micromounts. Cahn supplied him with a great variety of specimens to this end and learned from Mr. Fiss the delicate art of mounting them with the best effect. It was, I believe, from this association that his own interest in micromineralogy began, and he continued to prepare them up to within a few months of his death. He wrote me in 1937 that his micro-collection numbered over 3700 mounts representing 685 species. I was able to send him from time to time material of new minerals for new finds to add to this collection. Not only did he write most appreciatively of such additions but never failed to return to our collection some of the best mounts.

In his study of the micromounts he was able to make some interesting contributions to crystallographic knowledge, among others, in the field of orientated intergrowth of which he catalogued more than seventy combinations. He found independently of others, the basal pinacoid on quartz from the rhyolite of the Thomas Range, Utah, and stimulated one of his students in the search which resulted in finding the same form in the quartz from the rhyolite of Ruby Mountain, Nathrop, Colorado.

Lazard Cahn was vice-president of the Mineralogical Society of America in 1928. He did not often attend meetings of the Society during later years, but when he did he was always sought out by his older friends who loved to get him talking of his experiences with mineral dealers and collectors abroad and at home. His memory of events and of persons was wonderfully exact. And he seemed never to forget an outstanding specimen which had come to his attention, so that his appraisal of the value of a collection which he had examined was accurate and fair. Modesty as to his own great abilities was characteristic as was gentleness of speech and manner. In his death the science of mineralogy has lost a valued worker.

Extracted from a "Memorial of Lazard Cahn" by Charles Palache, Harvard University, Cambridge, Mass and published in the "American Mineralogist" 26, Page 174-177, 1941.

The Constitution and By-Laws required that the memory of Lazard Cahn be perpetuated and the title of "Honorary President" bestowed upon him continue so long as the society is active.

Lazard Cahn was born in St Joseph, Missouri, May 23, 1865. His parents were both of French nativity and came to the United States from Rhems.

By the time Lazard was ready for school, the family had moved to New York City, where he spent his earlier school days. When he was fifteen he was sent to Stuttgart, Wurttemberg, for two years. He continued there the usual studies and also studied the piano on which he became a very good performer. On returning to the United States he entered Stevens Institute. His great interest at this time was Chemistry and he planned to enter Yale University for advanced study of the subject, but the illness of a sister caused him to give up this plan and he went west to be with her.

In Colorado Springs he learned of some rare minerals, the hydrous fluorides and others, which had been found at St Peter's Dome nearby. His interest in these minerals was aroused on account of their unusual chemical constitution, but as his knowledge of minerals grew his enthusiasm for mineralogy increased and he was soon studying intently the subject in which he was to become so expert.

Mr. Cahn later studied mineralogy more formally in American universities and studied crystallography under Dr. Victor Goldschmidt at Heidelberg, but his excellence in morphology was due to his life-long absorption in it.

For a number of years, beginning about 1896, he dealt in minerals, traveling in this country, Mexico and in Europe, making many acquaintances and friendships which endured to the end. I think that one may say that those with whom he dealt came to feel complete confidence in his integrity and in his knowledge.

The writer's acquaintance with Lazard Cahn began about 1900 when he made periodical trips to Cambridge with specimens for sale. We soon found a basis for congenial friendship in our mutual love of crystallography. He was really only interested in crystallized minerals and it was wonderful how much he succeeded in seeing on the most minute crystals with only the binocular microscope to aid him. During the winter of 1914-15, not long after his stay in Dr. Goldschmidt's laboratory, he spent some time measuring crystals with me and increased his knowledge of crystal drawing. His drawings were exquisite; he sometimes reduced them by photography and printed the crystal figure on the label of the specimen illustrated. He also developed a method of cutting out of cardboard the various angles obtained by contact measurements of larger crystals. I have such a card carrying on its edges every angle of a very complex rhodonite crystal from Franklin, which he sold to our collection. The values of the angles and the indices of the faces between which they lie are written on the card with his delicate pen.

It was the author's good fortune to be able to give Cahn's name to a mineral which proved to be most unusual both in composition and crystal form. He first detected the minute colorless crystals with his binocular and sketched their peculiar form with accuracy. The name was attached to the species with Mr. Cahn's consent before enough of it was at hand for any chemical tests. We had to wait thirteen years for the mineral to turn up again at

Above: This excerpt from the November 1961, *Pick & Pan Reporter* was submitted by CSMS member Tina Cox in celebration of the CSMS 90th anniversary. Courtesy of Regional History & Genealogy, Pikes Peak Library. Used with permission. Editor's note: the article begins in the right-hand column and continues in the left.

Iron Ore, Minerals, Boundary Waters, and Big Fitz

Mike Nelson
csrockguy@yahoo.com



How many roads must a person walk down before you call them a rockhound?

- Apologies to Bob Dylan

At one time in my geological past, I organized and led student field trips to the Boundary Waters Canoe Area in Northern Minnesota. Driving north from Hays, Kansas, our group observed and studied various rock units that were unavailable to see in the sedimentary section of western Kansas. For example, we took a good look (and camped) at exposures of the Proterozoic Precambrian Sioux Quartzite (~1.6-1.7 Ga) cropping out around Sioux Falls, South Dakota, and adjacent western Minnesota. These outcrops were a good eye opener for the kiddies since their previous observation of the quartzite was in a pasture in eastern Kansas where I had previously stopped during a paleontology field trip. At this cow pasture locality, the Sioux was observed as small cobbles and boulders, the result of riding down glacial ice during the Pleistocene. The glacier(s) plucked the distinctive pink quartzite from the South Dakota/ Minnesota outcrops and dropped them off in a terminal moraine in eastern Kansas. These two areas presented a great message to help students understand the power of glaciers.



Above: Sioux Quartzite exposed at the “falls” in the city of Sioux Falls. *Photo courtesy of Steve Dutch, University of Wisconsin.*



Above: Sources of identifiable glacial erratics found in north-eastern Kansas. The dashed line represents the extent of Pleistocene glacier(s) in Kansas. *Map courtesy of Kansas Geological Survey.*



Above: Boulders and cobbles of Sioux Quartzite in terminal moraine near Wamego, Kansas. *Photo courtesy of Kansas Geological Survey.*

Near Sioux Falls in southwestern Minnesota is Pipestone National Monument, a national treasure often overlooked by travelers zooming along on nearby I-90. At the Monument the Sioux is also exposed but contains significant layers of catlinite, AKA pipestone. Catlinite is not a formally recognized mineral, although it often appears as such in popular culture, but is a sedimentary rock named argillite. The rock at Pipestone represents tightly indurated “mudstone/ claystone” that was formed between layers of the quartzite and subjected to deep burial where heat and compression lithified the clay into an argillite. At Pipestone there are specific minerals present in the argillite that give the rock a diagnostic chemical signature: kaolinite, muscovite, diaspore, hematite, and pyrophyllite. Although the sand quartzite is extremely hard at ~ 7.5 (Mohs), the catlinite is very soft at ~2.5. That softness then allows the argillite to be cut and carved into Native American pipes. The Monument staff at Pipestone believe that “for over 3,000 years, Indigenous people have quarried the red stone at this site to make pipes used in prayer and ceremony - a tradition that continues to this day and makes this site sacred to many people.”

The town of Pipestone also offers an opportunity to observe numerous buildings constructed in the late 1800s and early 1900s of the pink quartzite. The architecture of these buildings is fantastic and well worth a walking tour. The Museum at Pipestone noted that quarried rock was used in building construction in Minneapolis, Sioux Falls, Detroit, Sioux City, Chicago, Kansas City, Omaha and other locations.



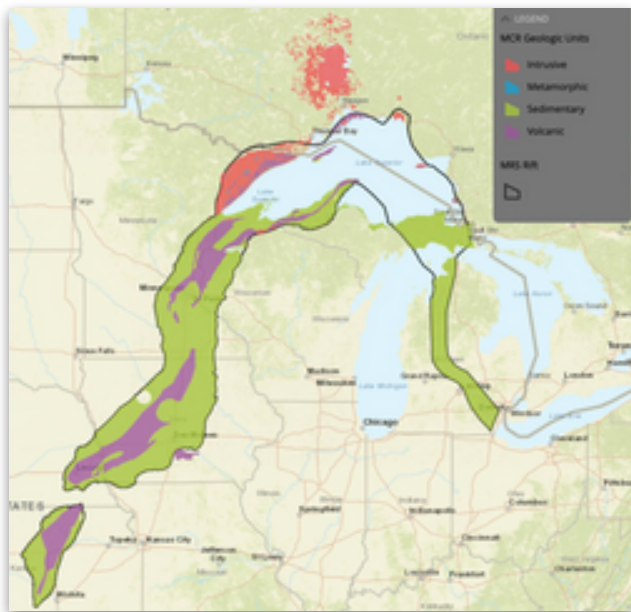
Above: The Pipestone City Hall was constructed in 1896. Today it is home to the Pipestone Historical Society who furnished the photo.



Above: Protohistoric Catlinite pipe, probably late 17th century loway, from the Wanampito site in Iowa. *Public Domain photo from Whittaker and Anderson, 2008, Wanampito: An Early loway Site: Newsletter of the Iowa Archeological Society 58(1):4-5.*

North of the Twin Cities the field trip group was able to observe, for the first time, the Mesoproterozoic Precambrian (~1.1 Ga) rocks of the Midcontinent Rift Zone (MRZ), the southern arm of a Triple Junction spreading center near Lake Superior. The MRZ is best known for the large-scale native copper deposits in the Keweenaw Peninsula of Michigan.

Continued ...



Above: The Midcontinent Rift System or Zone cuts across the North American Craton, the stable center of the continent, that began to split apart (think East African Rift Zone) starting ~1.1 Ga. Around 20 Ma the rifting stopped and started to close, hence the geological term "failed rift." The location of the rift south of Lake Superior in Minnesota (south of the Twin Cities), Michigan, Wisconsin, Iowa, Nebraska, and Kansas is inferred from gravity and magnetic data. *Public Domain map and info from USGS.*



Above: Basalt flows associated with the MFZ exposed along the St. Croix River at Interstate State Park, near metro St. Paul.

Further north in Minnesota we took a gander at the giant Mahoning-Hull-Rust Iron Mine near Hibbing (home of Bob Dylan born Robert Zimmerman). The Mine is located in the Mesabi Range, one of four iron ranges in Minnesota, the others being the Cuyuna, Vermillion, and Gunflint. The term range refers to a linear feature rather than a topographic high. Rocks of the ranges are Proterozoic Precambrian in age and are the result of the erosion of older Precambrian

rocks that were a part of the geologically complex Churchill Craton.



Above: Hull-Rust-Mahoning Open Pit Mine near Hibbing is a National Historic Landmark. *Photo is Public Domain courtesy of McGhiever.*

Marine waters occupied a large, passive, continental margin of the Churchill known as the Animikie Basin that accepted (2.5-1.8 Ga) erosional debris consisting of large amounts of silica (quartz etc.) and iron-rich minerals and happened to coincide with a massive change in the composition of the atmosphere known as the Great Oxidation Event (GOE). The earth's early atmosphere was a reducing atmosphere with little oxygen and consisting mostly of nitrogen and carbon dioxide that were probably derived from volcanic events. Somewhere in the Proterozoic, questionably as early as 3.5 Ga, photosynthetic cyanobacteria, with chlorophyll, began replacing the anoxygenic life forms of the reducing environment. The GOE refers to the massive oxygenic time around 2.4 Ga when the chlorophyll-based photosynthesis of cyanobacteria released oxygen as a byproduct. At this same time massive amounts of silica and ferrous iron (Fe^{2++}) was being transported into the Animikie Basin and hitting the oxygenated oceanic waters that oxidized the iron into insoluble ferric (Fe^{3+++}) iron that combined with the silica to form the famous banded iron formations (BIF). Around 1.88 Ga supracrustal BIF rocks of the Animikie were thrust northward

to their current localities in the Iron Ranges. The BIF were the sources of the ores fueling the massive iron mining industry. In the Mesabi Range the BIF were close to the surface and hence the concentration of large open pit mines.



Above: The Iron Ranges of Lake Superior. Photo Public Domain courtesy of W.F. Cannon (USGS).

As the high-grade BIF iron ores became depleted in the mid-20th century mining engineers developed the “taconite process” whereby low grade ore (termed taconite) was crushed to fine grains and the magnetite was removed by magnets, mixed with a bonding agent, usually bentonite, and then wetted, rolled, and concentrated into marble size “balls” which were then hardened by subjection to high heat. At that point the taconite contains about 70% iron and heads to one of four taconite shipping ports in Minnesota (Duluth-Superior, Taconite Harbor, Two Harbors, Silver Bay) where it is shipped to the steel mills of Indiana and Ohio. Currently there are only about a half dozen iron ore mines operating in Minnesota; all are in the Mesabi Range. The taconite process is fascinating to observe, and I was pleased to get the class into a personal tour.

The most famous taconite freighter on the Lake was christened in 1958 as the Edmund Fitzgerald and was a monster: 729 feet long and

weighing ~13,600 tons. On November 9, 1975, the *Big Fitz*, with a full load of taconite pellets and a crew of 29, left the Port of Superior, Wisconsin, headed to the steel mills near Detroit, Michigan. Unfortunately, the *Big Fitz* steamed into a stormy Lake Superior and on November 10 broke apart and capsized in winds at least 90 mph and wave swells of 25-30 feet. All aboard perished and today the ship and crew rest in ~530 feet of water not far from Whitefish Bay. The 1976 disaster was immortalized by Gordon Lightfoot’s recording of the immensely popular folk ballad, *The Wreck of the Edmund Fitzgerald*.

Upon leaving the iron ranges the class started experiencing a high level of excitement as we headed to Ely, home of the canoe outfitter. My mind begins to fade a little here and unfortunately my maps are still buried “somewhere” after my move. I do remember that we put in at Lake One heading counterclockwise, canoed to the Canadian border near Ensign Lake, canoed down the big Moose Lake, and finished after six days of paddling. Little did the kiddies, on that first trip, know that I had never been in the Boundary Waters previously and was sort of flying by the seat of my pants, my Brunton compass, and my maps. We did miss a few portages the first time, managed to escape most bears, brewed morning coffee that tasted fantastic, and had the time of our lives. Forty years later I periodically run into a student who canoed with me and has stories for their grandchildren. And the kiddies learned much about igneous and metamorphic rocks, how faults may define some lakes, and how other lakes are the result of Pleistocene glaciers scooping out large, and small, basins.

Continued ...



Above: Boundary Waters: quiet and loud.

iron formations, magnetite-bearing intervals within the Biwabik Iron Formation occur as laterally extensive, stratiform intervals. Economically mineable magnetite occurs exclusively within granular iron-formation (cherty) units of the Biwabik. The ore is sent approximately 10 miles by rail to the concentrator at the Fairlane processing facility in Forbes, Minnesota, to produce a magnetite concentrate, which is then delivered to the on-site pellet plant. From the plant site, pellets are transported by rail to a ship loading port at Duluth, Minnesota.

The specimen I have for this posting is minnesotaite, an iron silicate and really not much to look at.



Above: Steel gray masses of amorphous Minnesotaite in matrix. Top width FOV ~9.0 mm; bottom FOV ~ 3.0 mm. Photos: Mike Nelson.

Now for the mineral, I have a specimen from the Thunderbird Mine in the Mesabi Range near the mining town of Eveleth. Today the property is owned by Cleveland-Cliffs Inc. and is named the United Taconite Mine and includes the former Thunderbird Mine North (TBN) and the Thunderbird Mine South (TBS), collectively the Thunderbird Mine of earlier literature. The Thunderbird is one of the few large open pits still operating in Minnesota. According to Cleveland Cliffs, magnetite-bearing taconite is currently the principal iron-bearing rock of economic interest on the property. In line with other Superior-type

I spent a very few bucks for the specimen due to the facts that: 1) the mineral was named for the State of Minnesota and that is not a common naming practice; and 2) J.W. Gruner (1944), the naming author, first described it as an “iron talc” $\text{Fe}^{2+}_3\text{Si}_4\text{O}_{10}(\text{OH})_2$. That tidbit intrigued me so I took it home and then noted that talc $[\text{Mg}_3\text{Si}_4\text{O}_{10}(\text{OH})_2]$ is a hydrated magnesium silicate while minnesotaite is a hydrated iron silicate and therefore they are isostructural with each other. As best I can tell, there is no substitution between minnesotaite and talc due to the differences in the ionic radii in the two cations (I “think” but don’t always trust my thinking).

Minnesotaite is tough to physically describe since it often is a fine grained, greenish-gray (may appear almost black), massive “blob”. It really does not have much of a luster or shine although MinDat calls it resinous, waxy, or greasy. Some specimens evidently have tiny radiating crystals or platy forms. I might have expected an iron mineral to be quite hard; however, minnesotaite is very soft at maybe ~1.5 (Mohs), about the same as it’s isostructural relative, talc. It is always associated with the Banded Iron Formations.

In retrospect, canoeing the Boundary Waters was much more interesting than examining the iron minerals of northern Minnesota. My memories are quite valuable to me as they are lifelong mementos, something like treasured souvenirs of an interesting journey.

REFERENCE CITED

Gruner, John W., 1944, The composition and structure of minnesotaite, a common iron silicate in iron formations: *American Mineralogist*, vol. 29, nos. 9-10. Pgs. 363-372.

RIP Big Fitz

*In a musty old hall in Detroit they prayed
In the Maritime Sailors' Cathedral
The church bell chimed 'til it rang twenty-nine times
For each man on the Edmund Fitzgerald*

*The legend lives on from the Chippewa on down
Of the big lake they call, 'Gitche Gumee'
Superior, they said, never gives up her dead
When the gales of November come early*

— Gordon Lightfoot



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.rmfmfms.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.



March Meeting

Ann Schmechel and I waited at her house with some amazing Turkish coffee before we determined that it was going to be just us this time. With walking sticks in hand we took a short hike to the old quartz quarry about 30 minutes drive north of the Florissant Fossil Beds area. Ann is so blessed to live so close to a treasure trove of quartz and feldspars! The views are amazing and we got so many great photographs! (and specimens) Below is just a sampling of our photography. I could have stayed there all day! The weather held up nicely and overall a perfect little adventure!



Tree growing out of quartz, by Ann



Of quartz lichen this, by Fran



Snowy quartz on feldspar, by Fran



Triple double

Prospecting for Submissions

Calling for your photographs, tips, and articles! Send group information to Fran at whenearthspeaks@gmail.com to be included in the monthly newsletter. We would like to highlight different members each month.

Upcoming Meetings

Day and Time	Place	Information
April 13, 11am-2pm (ish)	Castlewood Canyon, Cave Trail parking lot	Join us for another photographic adventure day. We will meet at the parking area by Cave Trail at 11am; bring your lunch if you'd like. Be prepared to be immersed in stones!
May 18 Time TBD (stay tuned)	St Peters Dome, Eagles Nest area	NOTE, it's a week later than usual for this meeting! (can't meet usual Monday due to graduation) We will meet at the parking area right where Old Stage Road turns into Gold Camp Road. There is fluorite all over the area in several colors and the views are spectacular!
June 8	TBD	Leaning towards a bigger trip, like the Great Sand Dunes area.

Scenes from General Assembly (F. Rosenberg)



Scenes from Crystal Group (F. Rosenberg)



At our Crystal Group meeting this month, we were very fortunate to have had Philip M Persson give us an Excellent presentation on the History of The Sweet Home Mine and the Detroit City Addit. We had a good turn out and all were enthralled by Phil's talk.

Scenes from Faceting Group (P. Sevenants)



How to do a Case for the Show

Bob Landgraf - recipient, DGMG People's Choice Award
Adapted from Denver Gem and Mineral Guild

THE BASICS

- You only have to fill a space that is about 35" x 23" with specimens. That means you will probably need about 15 to 25 specimens.
- Don't be concerned that your specimens "are not worthy" – the presentation is the thing.
- Here are the major tasks you have to accomplish – in sequential order:
 1. Build a set of "liners" for each case you want to exhibit. A set of liners consists of:
 - A "Back Panel"
 - A "Floor Panel"
 - Two "Side Panels"
 - Each of the panels needs to be covered with cloth.
 2. If you wish, you can add risers, steps, "floating" platforms, or other items to help display your specimens.
 3. Choose the specimens you want to display.
 4. Create labels for each specimen and for the case.
 5. Create the desired layout at home.
 6. At the show, add the liners to the case and adjust the liners if necessary. Clean the liners before adding the specimens.
 7. Carefully add your specimens to the case.
 8. Clean the glass front panel and secure it to the case.

THE ROCKS

- One really good rule is to avoid putting too many specimens in the case!
- If you have more specimens than will fit in a case, make another case!
- Most people have a tendency to try to put too many in, even when they think about it.
- Taking two or three specimens out and spreading the remaining specimens will often make a dramatic improvement in a case's appearance.
- Having several steps or separate risers in a case will allow you to put in more rocks without things looking as crowded.
- Though it is always best to lay out the case ahead of time at home, take an extra specimen or two to "fine tune" the arrangement with different specimens while setting up the case.
- After you make the arrangement at home be sure to number the bottom or back of the labels so that you can remember the order you planned.
- After you have finished and are absolutely sure it is right, try taking a specimen or two out of the case to see if that improves the look.
- Without trying to be slavishly tied to a symmetry a generally balanced appearance (color, brightness and especially size) helps. A trick to check this is to step back and squint, such that details aren't noticeable, but just the general form and colors.
- It is best that the case contains specimens that are approximately the same size. An alternative that may work is to have one or more large specimens surrounded by smaller ones.

Tips about specimens

1. If you plan to wash specimens before setting up your display, allow a few days for them to dry thoroughly. Otherwise, heat from the lights can cause moisture to form inside the case.
2. Wear thin white gloves when setting up your display to avoid getting fingerprints on crystal faces and other shiny surfaces.
3. Bring paper towels and glass cleaner, tape for removing lint, a ruler to check your spacing and alignment, and extra mounting materials.

LINERS

OVERVIEW

- Liners are required for any cases you do for the CSMS show.
- The best way to carry the liners is probably one or more large black plastic garbage bags.
- Make sure the liner pieces all fit snugly together so you can't see gaps or the wood of the case between the panels.

Tips about liners

1. To make the liners fit tightly, you can make the liners a little smaller – maybe 1/4 inch or so. Then, you can stuff extra cardboard or wrinkled up newspaper as spacer material behind the back and on the outside of the sides such that the spacer material doesn't show.
2. If the liners are too wide on the sides with a relatively soft spacer behind the back, tightening up the front of the case forces the side liners back and makes everything more secure.
3. If you make the back liner deliberately a little too tall and bend it forward, it will act as a reflector and will hold the side panels in place.
4. If you make the liners the proper size so that the back rests on the bottom piece and the sides push against the back piece, the joints/seams are less apparent and any imperfections in the edges are less noticeable.

[Warning:] Don't make the mistake of using backing material that is too heavy. One of our more illustrious members once used dry wall and the back fell over and virtually destroyed some expensive and cherished specimens.

STIFF BACKING MATERIAL

- Cardboard
- Coroplast
 - Corrugated plastic
 - Less likely to bend and break than cardboard
 - Makes it easy to post photos and letters
- Use rubber cement, Weldwood cement, hot melt glue, “tacky glue,” or duct tape to attach the cloth to the backing.

COVERINGS USED ON THE BACKING MATERIALS

- Carpet
 - Advantages: easy to clean, lasts forever
 - Cut to fit case
 - Short nap, conservative color
 - Can be glued to liner backing with Super Glue or carpet cement
- Felt
 - Advantages: no wrinkles, lots of stretch
 - Glue to liner backing with spray rubber glue
- Patterned paneling – stones, wood, etc

COLORS FOR THE LINER FABRIC

- Be careful – Garish colors can be an absolute turn-off or “show-stopper”.
- Consider the colors of the specimens you are displaying when deciding what color background to use. You need to have good contrast between the specimens and the background color. For example, don't use a bright red background if you are going to display bright red minerals. The minerals will fade into the background.
- Light colors
 - Don't show the lint
 - Do make the cracks/seams between liner components more obvious than dark colors
 - Are harder to keep clean
- Dark colors
 - easier to keep clean
 - do a good job of hiding the cracks/seams between liner components
 - require a lint-picker roller to clean off anything white or light
- Mottled or Tweedy

[Note:] If you only want to make one set of liners, pick neutral colors that will be OK no matter what color specimens you put on them.

TYPE OF FABRICS USED FOR LINERS

Make it easy to clean – and easy to remove from the backing - if you are going to use it a lot.

SMOOTH OR GLOSSY CLOTH

- If you have glossy specimens such as quartz, a rough-textured cloth such as burlap will work.
- With rough rocks such as ore minerals or fossils, a smooth cloth might look better.

RISERS, FLOATERS AND SHAPES

OVERVIEW

- Use all of the case, not just the lower 12 inches.
- Take advantage of all the space.
- Don't put signs or labels on the sides of the case liners.

RISERS

- A 2-tier set of risers is the most common.
- 4 – 6 inches in height seems to be normal.
- You can vary the heights of risers within a case.

FLOATERS

- Use a dark cloth/covering.
- Cover the supports with dark material so they can't be seen.
- Keep the support materials back from the front of the floating shape so they won't be seen. .
- Make the support material for a floating shape big enough so the shape/board won't tip.

Tip about “floaters” - Look around at work or home for riser materials to create new affects. Some large plastic disks at work gave Bob the idea for his and Janie's case with the “floating” round risers.

FREEFORM SHAPES DRAPED WITH CLOTH

- Shapes to consider
 - Bricks
 - Logs
 - Wood blocks
 - Plastic holders
 - Glass jars
 - VCR boxes
 - Rock tumblers
- Possibilities for arrangement of shapes
 - Up & down
 - Ascending size
 - Each specimen sits on top of its own shape
 - Draw the viewers into the center of the case – where the specimens are.
- Avoid wrinkles, pleats and folds if at all possible.

[Note:] It is possible that that irregular, free form riser shapes can work better than shapes that are too geometrically regular. Use your imagination.

LIGHTING

- Make sure the whole case well lit
- Watch out for shadows - especially under any risers
- You might want to consider adding more lights. You can do this without drawing any more current than the standard pair of 75-watt bulbs. Use a Y-type adapter and two bulbs – a 50-watt clear incandescent bulb and a 25-watt fluorescent bulb in each light socket. This combination produces about twice the light of the standard 75-watt incandescent bulbs. The clear bulbs seem to give more “sparkle” to the specimen whether or not you use the fluorescent bulbs.

[Note:] In competition, we are often restricted as to the type of bulb we can use. Check the rules.

[Warning:] If you want to use bulbs other than what is provided, make sure their heat won't damage your specimens.

- Even when using dark risers, you can use white back and side liners to reflect more light on the specimens.

LABELS

OVERVIEW

- Always label your specimens. Viewers learn nothing from specimens that have no labels.
- Make labels the least inconspicuous thing in the case – but not invisible!
- The label should not dominate the case.
- When you look at the display, ask yourself: What is the first thing I see – labels or specimens?
- Case Title label
 - 36 point type or larger
 - Usually centered within the case

[Note:] If the Case Label is on the back panel of the case, make sure it is low enough to be easily read when the glass front is placed on the case.

- After you make the arrangement at home be sure to number the bottom of the labels so that you can remember the order in which you plan to display the specimens.
- Don't put signs or labels on the glass or on the side case liners.

INFORMATION ON LABELS

- Include a location as complete as possible – unless the rocks are all from the same location.
- Often descriptions (crystal class, twinning, type location, or any other information that might be of interest) can be added.
- All labels should be consistent in their layout, typeface, and information contained.
- For more formal/serious shows, check to see if there are specific labeling requirements.

PHYSICAL CONSIDERATIONS FOR LABELS

- Match/blend colors with the case liner.
- Off-white is better than pure white.
- Make the labels uniform in size.
- Legibility – two different points of view:
 - Make the labels legible from 4 feet away
 - Viewers should be able to read the labels when standing in front of the case.
- For computer-generated labels, a 14-point sans serif typeface works best. A sample of this size font is shown below.

This is a 14-point sans serif typeface

- Propping labels up for readability
 - Just fold down the back of a card-stock label.
 - Use folded card stock glued to back of label.
 - Put one or two .” nuts in back of the label.
 - Use a grooved piece of wood or Plexiglas.
 - Allow space on the bottom of the holder label if you use a grooved wood or plastic holder.

[Note:] It is OK to lay labels flat if they can be easily read.

TYPE OF MATERIAL USED FOR LABELS

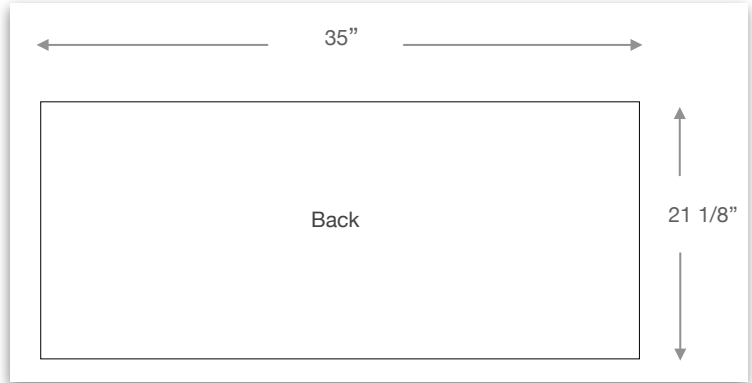
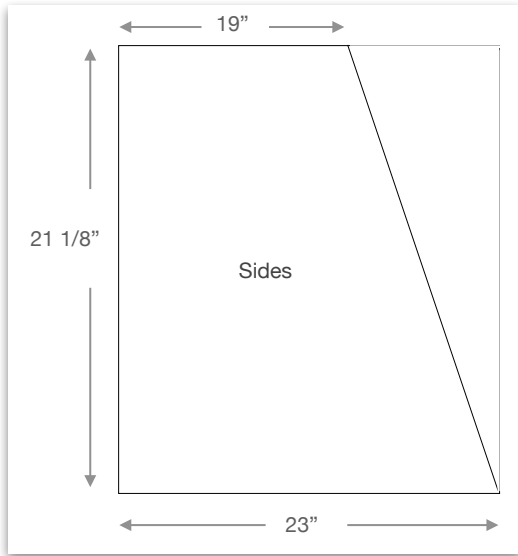
- Many labels used today are either computer-generated or made on a label maker. If you have a PC and access to Microsoft Word, almost any “computer person” can help you create a template you can use for just about any size label.
- Card Stock with back folded up.
- Laminated.
- Transparent labels on glass slide mounts.

PARTING THOUGHTS

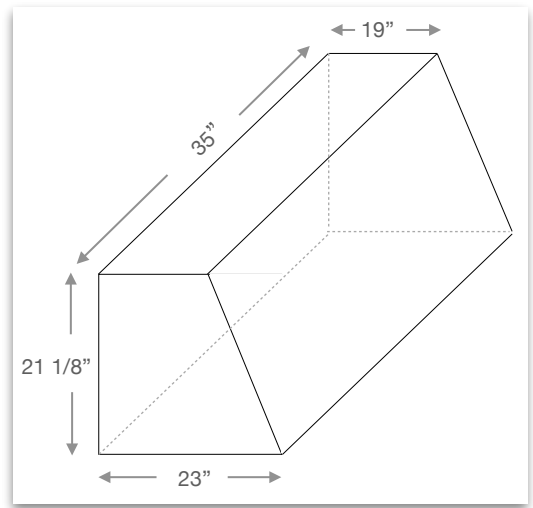
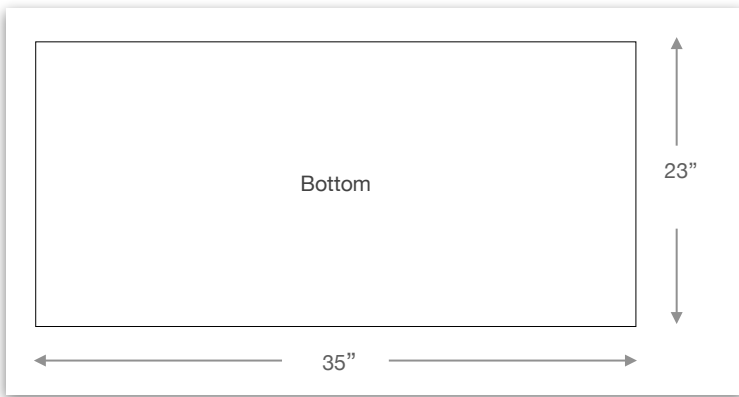
- The best thing to remember is to use your own imagination for your particular display. Often very striking effects can be achieved by using mirrors, back (or underneath) lighting, including artifacts, descriptive text, or whatever.
- One year Francis did a very whimsical (if unscientific) case with rocks and stuffed animals. While this type of thing may offend some sensibilities, it is the sort of thing that is attractive to the average, non-initiated viewer.
- Glen's stamp and mineral case is another example of a different approach that catches the eye.
- Don't be intimidated by what others do or by anything in this handout either. Let your imagination run wild. It will make it more fun for you and the viewer.
- Don't worry about whether your specimens are rare and valuable – the presentation is the thing!

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.



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

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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 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



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.rmfmfms.org