

**CSMS General Meeting
Thurs. October 16, 2014 7PM**

**This month's speaker is
Linda Smith, PhD. Geology - Water and Rock
She will speak on
Filters 4 (for) Families**

Treats provided by the Fossil Group.

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RARE NICKEL SULFIDES FROM THE MIDWEST (PART1)

Mike Nelson csrockguy@yahoo.com

I lived in southwestern Wisconsin for several years and my rockhounding was sort of limited to sedimentary rocks, fossils, and agates. In fact, when I think about the Midwest, the states around the Great Lakes and the upper Mississippi River, I generally pass it off as Paleozoic sedimentary rocks covered by glacial drift, the latter obscuring much of the surficial geology. Good collectable minerals seemed scarce, except calcite, but fossils

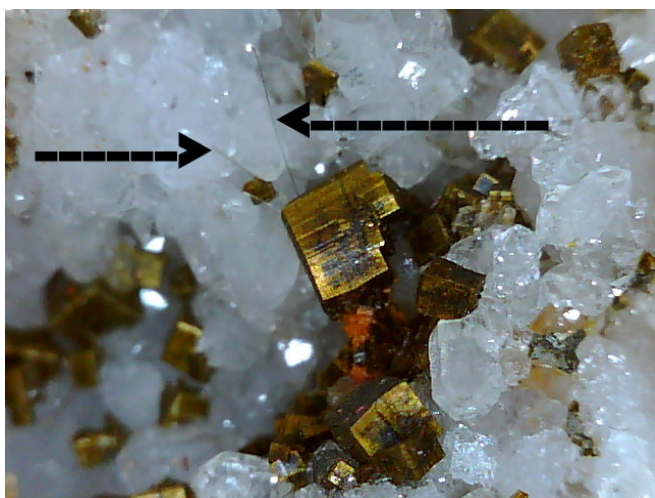


Fig. 1. Arrows point to single millerite crystals. Large pyrite cube ~ 1 mm. Part of a geode collected at Brummett Creek, Brown County, Indiana.

were abundant in limestone quarries (assuming you could enter such). However, that is really a very unfair characterization and nice mineral specimens are available for the rockhound—with a little travel. For example, Upper Michigan has the great copper deposits, and a variety of copper minerals, in rocks associated with the Mid-Continent Rift System. Wisconsin not only has iron deposits but nice copper minerals in the Ladysmith area. Illinois and Kentucky have some of the world's best fluorite crystals. Minnesota has a banded iron formation (BIF) that collectors cut and polish and highly value. Ohio has celestine crystals of a delicate shade of blue. And then there is Missouri, a state rich in metallic resources and minerals; the now-defunct Tristate lead and zinc area and the Mississippi Valley-type Deposits such as the Viburnum Trend producing lead and zinc, copper and silver. All of the Midwest produces agates of one sort or another (i.e. Lake Superior),

Continued on Page 3

CSMS Calendar

October 2014

Thu., **Oct 2**—**Board Meeting**, 7 p.m., Senior Center.

Tue., **Oct 7**—**Fossil Group**, 7 p.m., Senior Center. Jerry Suchan 303 648-3410

Tue., **Oct 14**—**Micromounts**, 7 p.m., Senior Center. Dave Olsen, 719 495-8720

Thu., **Oct 16**—**General Assembly**, 7 p.m., Senior Center.

Pebble Pups & Juniors, 5:30 to 6:15 p.m., Steven Veatch, 719 748-5010

Thu., **Oct 23**—**Crystal Group**, 7 p.m., Senior Center. Kevin Witte, 719 638-7919

Faceting Group, 7 p.m., Senior Center. Paul Berry, 719 578-5466

Jewelry Group, By appointment. Call, Bill Arnson, 719 337-8070.

Lapidary Group, Appointment Only, Sharon Holte, 719 217-5683

November 2014

Tue., **Nov 4**—**Fossil Group**, 7 p.m., Senior Center. Jerry Suchan 303 648-3410

Thu., **Nov 6**—**Board Meeting**, 7 p.m., Senior Center.

Tue., **Nov 11**—**Micromounts**, 7 p.m., Senior Center. Dave Olsen, 719 495-8720

Thu., **Nov 20**—**General Assembly**, 7 p.m., Senior Center.

Pebble Pups & Juniors, 5:30 to 6:15 p.m., Steven Veatch, 719 748-5010

Thu., **Nov 27**—**Crystal Group**, 7 p.m., Senior Center. Kevin Witte, 719 638-7919

Faceting Group, 7 p.m., Senior Center. Paul Berry, 719 578-5466

Jewelry Group, By appointment. Call, Bill Arnson, 719 337-8070

Lapidary Group, Appointment Only, Sharon Holte, 719 217-5683

The Senior Center is located at **1514 North Hancock** in Colorado Springs. For more information on any of the sub-groups, meetings, and other CSMS valuable information, go to our website, csms.us

Other Events of Interest to CSMS Members

Oct 10: Canon City Mineral Club—Tunnel Drive/Geology Walk, 10:00 am - 2:00 pm Meet at Tunnel Drive trailhead in Cañon City

As part of the Fremont Fall Heritage Festival, Dr. Bob Hickey, Colorado Parks & Wildlife, will discuss the rocks and geology of the Royal Gorge, as well as some railroad and local history of the area.

This mostly flat 4 mile round-trip hike follows the Tunnel Drive Trail, an old railroad grade, into the Royal Gorge. There is an approximately 150 foot elevation rise and drop at the beginning of the trail.

We will stop for lunch/snack two miles up in the Gorge, where we will rest and turn around at trails end for the return trip.

The hike is for all skill levels, including handicapped and children more than 5 years of age. Dogs are allowed but must be on leash. There is a large parking area and a handicapped parking area at the trailhead at the end of Tunnel Drive. There are no facilities along the trail. There are no entrance or other fees for this activity.

Oct. 11: Dinosaur Discovery Day at Dinosaur Ridge, 10a.m.–2 p.m. Featuring National Fossil Day and Girl Scout Day.

Continued on Page 8

beautiful geodes containing quartz and calcite (i.e. Keokuk), and some spectacular calcite crystals.

I have always had several questions about mineralization, mostly the sulfides, in the central and southern reaches of the Midwest. Mineralization in the northern parts, Wisconsin, Minnesota and Michigan, is related to the Precambrian rocks and the ore genesis is easier to understand. But why do the sulfides appear in the limestones and geodes to the south essentially from Michigan to Kentucky? Where did the iron, zinc, copper and even the sulfur originate?

I am still not certain that a definite answer exists but Wenz and others (2012) believed the ores of the Mississippi Valley-type Deposits (such as the Viburnum Trend, the Old Lead Belt, and the New Lead Belt in the Missouri Ozarks) are the result of the introduction of sulfides into lead- and zinc-rich ore fluids that in turn were derived from the 1460 Ma Precambrian basement rocks. The sulfides may have been derived from local organic- and sulfur-rich carbonate rocks. Galena (lead) and sphalerite (zinc) are non-complex sulfides and are the stable forms in a low temperature environment (the depositional environment of the Mississippi Valley-type Deposits). Marcasite and pyrite, common simple sulfides found in the carbonate rocks of the Midwest, may be the result of precipitation from marine waters (I think).

Another thought seems to center around fluid movement from the deep basins present in the Midwest to the rims of the basins during later orogenic events. In this model the source of the metals is leaching from sedimentary and other rocks (Precambrian basement?) at higher temperatures in the deep basins, and then transport to shallower levels where they can combine with free sulfide ions, probably resulting from the action of sulfide-reducing bacteria in the shallow rocks (model from Stefano, 2014, discussion on www.Mindat.com).

The least common sulfide in the Midwest carbonates is millerite (nickel sulfide, NiS). Although fairly rare, millerite has a widespread distribution throughout the Midwest from Michigan and Wisconsin through Iowa, Illinois, Ohio, Indiana, and Missouri to Halls Gap, Kentucky. Stefano (MinDat discussion) believed the source and depositional model is similar to galena and sphalerite—from deep-seated basin rocks to migration along basin rims. In fact, I asked the MinDat group if the surficial distribution of millerite had been delineated. Stefano noted that it seems to generally correlate with the basin rims.

Millerite is a fascinating mineral, at least to an old paleontologist like me (Figs. 1-3). The crystals are clusters, or individuals, of shiny metallic acicular crystals that are pale brass-yellow when fresh but tarnish to an iridescent “black.” The clusters of millerite often appear, at least to me, to be a “cat’s whisker.” In most examples the crystals are quite small, sometimes on the order of a millimeter, and are often missed when hand samples are examined in the field. For example, I have some “Keokuk Geodes” collected on a field trip during my tenure in Missouri. I recently examined them under high power and noted tiny millerite crystals. Neat.

Continued on Page 4



Fig. 2. Millerite single crystals collected Halls Gap Road Cut, Kentucky. Crystals ~1 mm. or less in length.



Fig. 3. Radiating millerite crystals on crystalline calcite. Collected “near Iowa City, Iowa.” Length of “whiskers” ~4 mm.

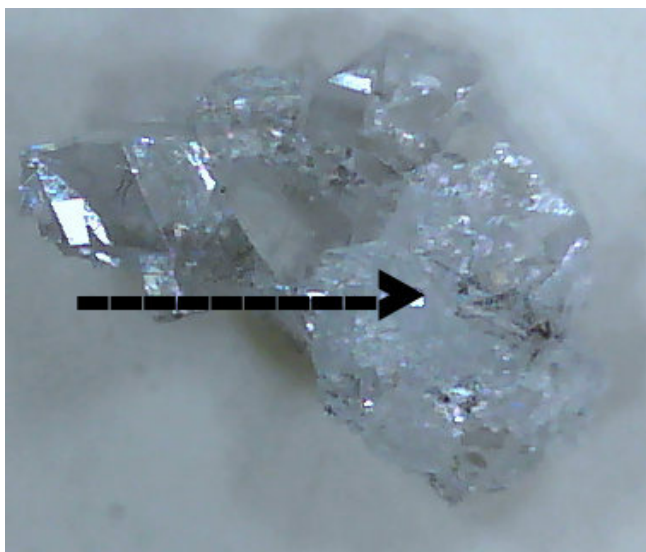


Fig. 4A.

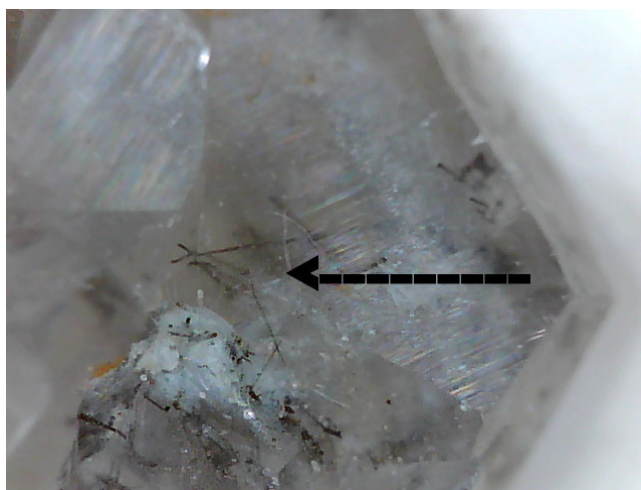


Fig 4B. Individual crystals of ?polydymite encased in calcite, each ~1mm in length. Collected Grays Quarry, Hancock, County, Illinois

But wait! I thought perhaps I had acquired a basic understanding of millerite when “Grays Quarry, Hancock, County, Illinois” appeared on the radar screen. While sorting through my few specimens the Illinois description appeared and so I decided to check it out. Much to my surprise, Grays Quarry contains tiny acicular crystals of polydymite, a nickel sulfide, $\text{Ni}^{++}\text{Ni}^{+++}_2\text{S}_4$, encased in calcite crystals (Figs. 4A and 4B). Most crystals of polydymite seem to be octahedrons; however, some are finely acicular. As best that I can tell, polydymite forms from the oxidation of other nickel minerals. The photos on MinDat are a “dead ringer” (at least in my mind) to a specimen in my collection labeled (by a seller) as millerite. So, without a pocket XRD or Microprobe I will label these tiny crystals as polydymite!

In summary, I sometimes find daydreaming a worthwhile endeavor! I had examined some sulfide specimens from Missouri and had appreciated the beautiful crystals of sphalerite, dolomite, galena and chalcopyrite. This was a taxing experience so I retired out to my hammock for a bit of sunshine and relaxation. These activities then lead to an old question—where did the sulfides dotting the Midwest carbonates originate? That was a puzzle to me! I could speculate on the pyrite and marcasite but what about the lead and zinc? And then it hit me that I have a few specimens of these acicular crystals of nickel sulfide, millerite. Now nickel is not a rare element on earth but why would it be found in these Paleozoic carbonates of the Midwest? So, I posed the question to a Mindat Discussion and much to my surprise a vigorous discourse ensued. Wow. That was great and I learned much. If only I had taken a course in geochemistry or ore genesis!

I want to thank Chris Stefano of Michigan Technological University for his informative discussions on MinDat as well as his personal emails.

REFERENCES CITED

Wenz, Z.J., M.S. Appold, K.L. Shelton and S. Tesfaye, 2012, Geochemistry of Mississippi Valley-type Mineralizing Fluids of the Ozark Plateau: A regional synthesis: American Journal of Science, v.312, no. 1 22-80.

THE TROUT SKIN POCKET

By Kevin Witte

The discovery of the “Trout Skin Pocket” was 4 years in the making. In 2011 my rock hounding partner and I hiked up Bear Creek Canyon towards Sentinel Rock. I noticed crystal fragments littering the ground and scanned the hill above me and saw no digs so I set about doing some prospecting. I dug into a small pocket and found some pale amazonite and quartz crystals. After prospecting a little more I believed I had found all there was to find in this spot only learn later how wrong I was.

After rechecking for any new valid claims I decided to revisit the old area in June 2014 to see if the recent heavy rains had uncovered anything new. While I didn't see anything spectacular I noted a couple crystal fragments above the small dig I had excavated 3 years before. Crystals don't float up a hill, so I knew there must be something else above the old pocket. I dug down through about a foot of dirt and found some very good looking graphic granite. I backed off the dig about 3 feet and then dug uphill towards the apparent pegmatite. The pegmatite was fairly large and headed down and into the hill. As I followed the pegmatite the surrounding dirt turned from black to yellowish orange (a good sign). I slowed down my digging, discarding my pick axe for a rock hammer. Suddenly I hit a rock that made a quartz clinking sound with my rock hammer. Yes, country rock and quartz do make different sounds when hit with a hammer, it's something over time your ear gets tuned to. I decided to proceed with care by discarding my rock hammer for a scratcher (modified screw driver). Soon the crystals began popping out. I had pegmatite on my right and pegmatite on my left with plates and loose crystals filling the void... I was in the pocket. Nearly the first crystal I pulled out was 6+” with fluorite attached.



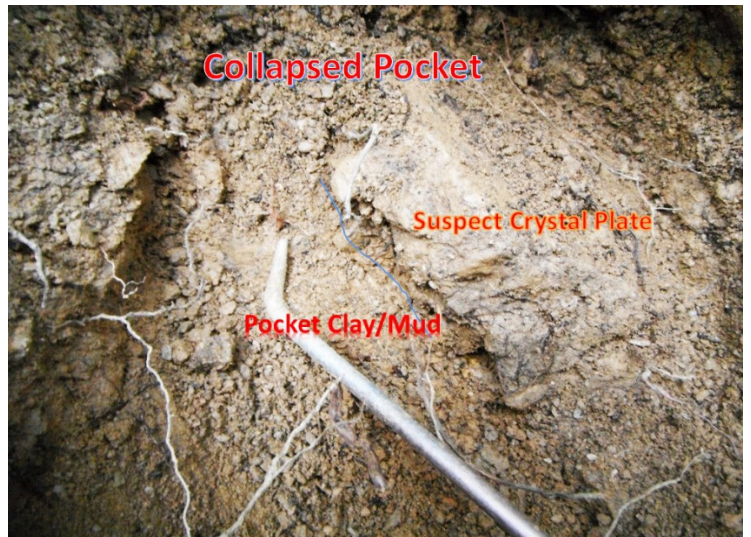
A Portion Of The Pocket Getting Sorted



A Nice Fluorite On Matrix



Quartz Crystals With Fluorite Attached



Excavating Pocket Showing Plate To The Right.

I gave out a holler to Bob, my digging partner, and let him know I was into something good. I continued to carefully pull out crystal plates and crystals for the rest of the day. I tried to pack associated loose crystals with their plates in order to possibly reconstruct a plate or two. I had about 25lbs of crystals and plates to take home to clean up and see exactly what I had found. Bob also took a few plates to help lighten the load for me. I buried the leftover plates and crystals I couldn't take due to the weight and came back again the following week.

During my next visit I dug out the dig and removed the dirt and plates I had left behind, then continuing the dig down into the pegmatite. There was still a nice void in the vug that promised more crystal goodies. A rather large country rock was on the left side of the pocket. I had an awkward time getting it out and after somewhat roughly removing it I realized it had been sidewall to the pocket and I had damaged a nice fluorite in the process. I continued digging down more carefully now, removing everything by hand and with a scratcher. After digging down another 3 feet I was running out of room. To dig another foot down I would have to remove over 6 feet of overhanging country rock to go safely further. Examining the last hours work of finds I decided I was done. The void was pinching off and all the plates I had found in the last couple hours had subhedral crystals. I determined the effort was not worth the prizes I was pulling out of the dig. I refilled my backpack with the best specimens and left the rest behind. I tore down the sidewalls of the dig to make it safe for critters. Now the cleaning and sorting would begin.

After soaking the crystals and plates for a few days in soapy warm water I gently scrubbed them off with a toothbrush to see what I had found. Realizing most of the smoky quartz crystals were hooded with white overgrowth quartz I knew the pocket was not going to be spectacular, but still a wonderful find. Most of the quartz crystals are covered in a couple of layers of white quartz, but on other crystals the smoky foundations are visible with milky quartz hooding other areas. Some of the quartz crystals also have a speckling of hematite included in the crystal giving them the trout skin appearance and thus the name for the pocket. I also noted some odd brown cubes dotting some of the plates. Upon further examination and consultation with others we determined the small cubes are pseudomorphs of goethite after pyrite. After cleaning the plates and fitting in some of the broken off crystals I realized that some of the plates go together. I easily fit four plates together but was missing a rather key middle piece... back to the dig I go. Voila I found the missing piece! The missing piece had an interesting inclusion of a dark iron coated ribbon running through it which matched in with the surrounding plate perfectly. So, after 3 visits to the dig, 4 if you include my visit in 2011 I finally got the goods! Crystals include: smoky quartz, milky quartz, microcline, blue/green fluorite and pseudomorphs of goethite after pyrite.



4" Hooded Smoky Scepter



Reconstructed 16" Plate With Smokys, Fluorite, Microcline



Trout Skin Milky Quartz Crystals 4"

PEBBLE PUPS CORNER



Quick Notes on Amethyst

By Steven Marquez

Amethyst is the violet to purple variety of quartz. Amethyst is often associated with albite and orthoclase in pegmatites. Fine specimens of amethyst can be classified as semiprecious gemstones.

This specimen was found in Cripple Creek Colorado as a near surface deposit on the *David Leighton* gold mine, owned by Steven Wade Veatch across from the hardware and grocery store on Teller County 1. The short, stubby amethyst crystals formed gas pockets in a hot, welded ash deposit that once covered the landscape of Cripple Creek. Amethyst is mined in great quantities from the state of Minas Gerais in Brazil. A deep purple amethyst is commonly found in Uruguay.

The color purple is a royal color which is why amethyst is often used in jewelry for kings and queens. Amethyst was highly valued by Egyptians. The ancient Greeks believed that amethyst was a protector against intoxication. Amethyst is the birthstone for February.

FACTS ON FILE

Chemical formula: SiO_2

Composition: silicon dioxide; the color is caused by iron or manganese impurities

Color: purple, greasy luster

Streak: white

Hardness: 7

Crystal system: hexagonal

Transparency: transparent to translucent

Specific gravity: 2.65

Luster: vitreous

Cleavage: none

Fracture: conchoidal

Tenacity: brittle

Group: silicates, tectosilicates

Haiku: (a poem by Steven Marquez)

Brilliant purple

Never ceasing to amaze

Glowing like the stars



Figure 1. A stubby, pyramidal amethyst crystal from a gold mine in Cripple Creek. Specimen is from the Steven Veatch collection. Photo © by Steven Marquez.



Figure 2. Note the faint crosswise striations on the surface of the amethyst crystal. This is one of the diagnostic features of quartz. Specimen is from the Steven Veatch collection. Photo © by Steven Marquez.



Author Steven Marquez is seen working on the curation and cataloguing of the mineral collection at the Cripple Creek District Museum. Photo © by Steven Veatch.

About the author

Steven Marquez is an Earth Science Scholar with the Colorado Springs Mineralogical Society. He has volunteered hours working on the mineral collection at the Cripple Creek District Museum. He is in the 8th grade and studies with the Pikes Peak Pebble Pups and Earth Science Scholars.

Oct 11: Lake George Gem and Mineral Club — Monthly Meeting

10:00 am Lake George Community Center—Awards Ceremony followed by a brief talk by Bob Carnein, "Knowing What to Expect: The Key to Successful Mineral Identification. The talk will be followed by a silent auction.

Oct 13: Cañon City Geology Club Meeting

Dr. Robert Hickey of the Salida Colorado Parks & Wildlife, speaking on "The Fantastic Varied Geology of Big Horn Sheep Canyon".

Bob will provide an explanation of the geology of the Big Horn Sheep Canyon between Cañon City and Salida, including metamorphic rocks, the lower Paleozoic sedimentary rock column, rarely exposed Precambrian rocks, visible faults, magnificent folds, and other landforms. You won't need to be a geologist to understand and enjoy this presentation on one of Fremont County's beautiful natural landscapes.

Everyone is welcome. Business meeting at 6:00 pm. Speaker at 7:00 pm. Location: First United Methodist Church Fellowship Hall on the northwest corner of 9th St. and Main in Cañon City. For more information, contact 719-275-9781.

Oct 18: Steven Veatch presentation

"Cripple Creek's Foundation of Fortune: The 1894 Cross and Penrose Geological Survey" See page 10 for additional information.

Oct 19-22: Lindenmeier: Ancient Lives, Ancient Dreams Symposium

Celebrating Soapstone Prairie Natural Area's Lindenmeier archeological site, the largest Paleoindian site in North America. Scientists discovered a Folsom point wedged into an ancient bison bone at Lindenmeier, helping to prove the presence of humans at the location at least 10,000 years ago. Edwin N. Wilmsen is the keynote speaker. Registration and details are at www.fcmod.org

November 8-9: 35th Annual New Mexico Mineral Symposium

Macy Center, New Mexico Institute of Mining and Technology, Socorro, New Mexico
Featured Event: The Past, Present, and Future of the New Mexico Bureau of Geology and Mineral Resources—Mineral Museum; Presented by: Dr. Virgil Lueth. For more information and online registration visit <http://geoinfo.nmt.edu/museum/minsymp/>

Old Colorado City History Center

by Kaye Thompson

DID YOU KNOW: The Colorado Springs Mineralogical Society has a case at the Old Colorado City History Center? This case was built by Roger Pitman many years ago and has been filled with rocks, fossils, pictures of Club events from the past to present day. Additionally, the display in the case has been instrumental in peaking interest in CSMS and we have gained some new members from it.

I hope you will stop by and take a look at the new display of Minerals from the Pikes Peak Batholiths. The Museum is at 1 S 24th St., just off Colorado on 24th. Bring a friend and if you like what you see or not or if you have a idea for a new display contact Kaye Thomson, 719-636-2978. Visit the web-site at www.occhs.org for more information. Fall Hours: Oct - Christmas - Thursday through Saturday from 11:00 a.m. to 4:00 p.m.

New Magazine—American Rockhound

Take a look at a new magazine for the rockhound enthusiast, 'American Rockhound' magazine. This is a new quarterly publication that is currently in its third issue. It is based in Asheville, North Carolina and has regular contributors from North Carolina, Tennessee, Washington and South Carolina. This is a book quality magazine with heavy gloss covers and pages. According to the publisher, the content is top notch and we believe you will find it an asset to the rockhounding hobby. It is available in both printed form and on CD. The subscription rate for print is \$42 per year. Individual copies are \$12. DVD subscription is \$22 per year and \$7 for an individual magazine.

To learn more about this new magazine, visit www.americanrockhoundmagazine.com or www.americanrockhound.com and click on the magazine link. We are always looking for new writers who want to share their stories with us. If you have something that is hobby related to share, please feel free to email me at rick@wncrocks.com and share your ideas with us.

Rick Jacquot 828-779-4501

2014 CSMS Officers

Mark Lemesany, President

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Sharon Holte, Secretary

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Lisa Kinder, Editor

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Susan Freeman, Member-at-Large

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Camera Club Chair is Vacant

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Sub-Group Responsibilities for Refreshments for General Assembly Meetings

Feb. Fossil	Mar. Jewelry	Apr. Lapidary
May Micromount	June Board	July Crystal
Aug. Picnic	Sept. Faceting	Oct. Fossil
Nov. Jewelry	Dec. Christmas Party	

SECRETARY'S SPOT by Sharon Holte

Minutes of the Colorado Springs Mineralogical Society General Meeting September 18, 2014

Called to order: 7:03 p.m. By Mark Lemesany – President. Followed by Pledge of Allegiance

Program for evening: by Dennis Beals was our speaker. Dennis has traveled extensively in Mexico and is a dealer of Mexican minerals. His program covered the minerals he collects in Mexico and explained some of the Mexican dealers he works with.

New members and guests were introduced. Several guests also introduced themselves.

The break for refreshments was well appreciated by all!!

Mark called for a volunteer to be in charge of a project. Bob Landgraf was the lucky winner. He is lining up a new slate of officers for CSMS for 2015.

Sharon took some notes on when, where and who is in charge of the satellite groups. Sharon and Jackson Peirce worked with cleaning up the web-site and posting the meetings thru December. **He has asked if anyone has pictures of the June 2014 Gem and Mineral Show.**

The drawing was held for several minerals.

Adjourned at 8:20 p.m.

Reported by Sharon Holte - CSMS Secretary

Local Geologist & Historian, Steven Veatch to Speak!

PRESS RELEASE:
September 24, 2014

As a descendant of Cripple Creek, Colorado miners, Steven Veatch is a passionate about the District! He's also a published geologist and historian - recognized for his academic contributions. Combine these two qualities, and Steve can tell a story that will thrill and educate an audience at the same time! Join us on Saturday, October 18, 2014, at 10:00 a.m., to explore how a geologic survey, conducted in 1894, created the foundation on which Cripple Creek miners made millions.

Have you heard the name Penrose? Does it make you think about Pikes Peak history, big business, philanthropy, or the Broadmoor Hotel? Then come to hear this presentation: "Cripple Creek's Foundation of Fortune: The 1894 Cross and Penrose Geological Survey," and you'll learn how that name became famous in the "World's Greatest Gold Camp."

The presentation is sponsored by the Cripple Creek & Victor Gold Mining Company (CC&V), and is free and open to the public. After the presentation, CC&V will pay admission for presentation attendees to visit the Cripple Creek District Museum to see their Cross-Penrose Rock Collection.

The location for this presentation is CC&V's Visitors Center at 371 E. Bennett, Ave., Cripple Creek, Colorado 80813 – seating is limited, so RSVP today to: 719-689-2341.

For additional information, please contact:
Brad Poulson, Communications Specialist
Cripple Creek & Victor Gold Mining Company
719-689-4052
Brad@CCVMine.com

CSMS Field Trips

For more information please refer to the CSMS Calendar located on the website (csms.us).

Oct 18: Blue Barite — Hartsel, CO

Lead by: Phil Stry

Oct 18, 19, 20: Yellow Cat/Cisco, Utah and Grand Junction Mineral Show Field Trip

Lead by: Marge Regel

Oct 25: Smoky Quartz, Amazonite, Goethite — CSMS' April Fools Claim, Lake George, CO

Lead by: Mark Lemesany

PICK&PACK

Our Staff...

Lisa Kinder—Editor

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

Share your experiences, your new finds, or simply your experience at our last field trip.

Handwrite it, type it, or email it. Format does not matter. All submissions are welcomed. The DEADLINE for items to be included in the next Pick & Pack, is the **21st 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 should be submitted at resolutions above 200 dpi in TIF, BMP, JPG, or PIC format. Articles are preferred in word. Editors will correct font

E-Mail to:

csmseditor@hotmail.com

Mail to:

Pick & Pack Editor

PO Box 2

Colorado Springs, CO 80901

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

CSMS

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

If you celebrated a CSMS anniversary in 2012 or 2013, your year pin award

See Storekeeper,
Ann Proctor

Classifieds



Grand Junction Gem & Mineral Club's
67th Annual
Gem, Mineral, & Jewelry Show
October 18th - 19th, 2014
Two Rivers Convention Center
On the Corner of 1st and Main St
Downtown Grand Junction, Colorado

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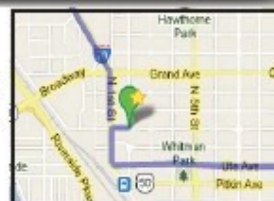
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CSMS is an incorporated nonprofit organization with these goals:

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

To encourage study, collection, and fashioning of minerals.

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

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

Joining the Colorado Springs Mineralogical Society (CSMS)

Meetings are held the **third (3rd) Thursday of each month**, except January & August, **7:00 p.m.** at the Colorado Springs Senior Center, 1514 North Hancock Ave., Colorado Springs, CO. **Visitors are always welcome.**

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

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

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

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

CSMS is a Member of: the following organizations:

American Federation of Mineralogical Societies (AFMS)

www.amfed.org

Rocky Mountain Federation of Mineralogical Societies (RMFMS)

www.rmfmts.org