PICK&PACK

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Colorado Springs Mineralogical Society
Founded in 1936

March 2015
PICK&PACK
Vol 55 ..... Number 2

CSMS General Meeting

Thurs., March 19, 7:00 PM

This month's speaker is

Joe Dorris, Glacier Peak Mining

Topic: Smoky Hawk Mine, the Icon Pocket, and Geology of the Area

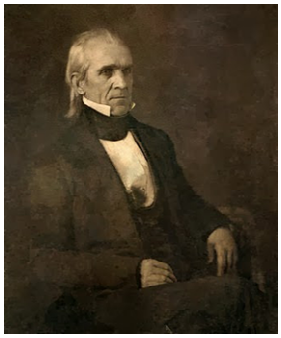
**** Silent Auction to Benefit the Workshop Fund ****

Refreshments provided by the Lapidary Group

Inside this Issue:

Arizona Minerals and the Gadsden Purchase: How Three Little Known U.S. Presidents and an Erroneous Map Brought Future Copper Mines to the Nation

Mike Nelson csrockguy@yahoo.com



James Polk, 11th President
Public Domain photo

Zachary Taylor, 12th President
Public Domain photo

Franklin Pierce, 14th President
Public Domain photo

I am writing this article, in latest January, while waiting for the shows at Tucson to open in a few days. I greatly enjoy the many venues and love to prowl the small tents and pickup beds scattered around the city---keeping my eyes peeled and looking for a bargain and a "strange" mineral. Of course, I also like to develop a conversation with these smaller dealers. The "main show" at the downtown convention center is always a stunner and is on

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CSMS Calendar

March 2015

Tue., Mar 3—Fossil Group, 7 p.m., Senior Center. Jerry Suchan 303 648-3410

Thu., Mar 5—Board Meeting, 7 p.m., Senior Center.

Tue., Mar 10—Micromounts, 7 p.m., Senior Center. Dave Olsen, 719 495-8720

Thu., Mar 19—General Assembly, 7 p.m., Senior Center.

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

Thu., Mar 26—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, Appointment Only, Bill Arnson, 719 337-8070.

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

April 2015

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

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

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

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

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

Thu., Apr 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, Appointment Only, 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

Mon., Mar. 9, 7:00 p.m**., Shallow Marine Hydrothermal Systems in Volcanic Arcs,** by Dr. Thomas Monecke, Colorado School of Mines; at the monthly meeting of DREGS, Berthoud Hall Room 241, Colorado School of Mines, Golden; all are welcome. See http://www.dregs.org/index.html .

Thurs., Mar. 12, 3:00 p.m., Denver Museum of Nature and Science, VIP Room, DMNS Earth Science Seminar, David Krause, SUNY Stonybrook, **"Bizarre and marvelous dinosaurs and other vertebrates of Madagascar: Insights into the southern end of the world"**. All are welcome to attend; DMNS admission not required.

Thurs., Mar. 12, 7:30 p.m., **Amethyst from Thunder Bay, Ontario: A 1970s–1980s Perspective**, by Daniel Kile; at the bimonthly meeting of the Colorado Chapter, Friends of Mineralogy; Denver Museum of Nature & Science, VIP Room; all are welcome.

Sat. - Sun., March 14-15, Symposium sponsored by WIPS (Western Interior Paleontological Society) "Fossils and Flight", Green Center, CSM campus, Golden, CO. See http://westernpaleo.org/symposiums/2015_pages/about-2015.html for details.

Thurs., Mar. 19, 7:00 p.m., Colorado Scientific Society monthly meeting, two presentations by Don Becker, U.S. Geological Survey: **The 1923 Surveying Expedition of the Colorado River in Arizona**, a 30 min. video presentation; and, **Documenting changes in the landscape and glaciers of Glacier Bay National Park by recreating historical photography**. Shepherd of the Hills Church, 10500 W. 20th Ave. (at Simms St.), Lakewood; all are welcome.

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the bucket list of most rockhounds and mineralogists. However, because of copy deadlines with the *Pick & Pack* I will not get a Tucson report to readers until the April issue.

I am a history buff as most readers can tell from the nature of some of my articles. Is seems to me that many geologists (especially stratigraphers) are historians; however, we just study "old stuff." In my introductory geology classes there were always the questions about paleontologists and archaeologists, about how old a bone must be before it is classified as a fossil, about the ~10k year time boundary between the Pleistocene and the Holocene (Recent). My standard answer was if the bone smelled, give it to an archaeologist. On the other hand, I did notice that many geologists took a big interest in history and were always willing to help the field historians decipher the local stratigraphy, soil zones, bones, etc.

Keeping my mind functioning during the long drive to Arizona I was thinking (daydreaming?) about what it would have been like to explore some old Arizona mines during times of magnificent crystals falling off the walls---or something like that. This made me wonder about how many rockhounds recognize a mapmaker by the name of John Disturnell? If it had not been for ole John's goof-up, the U.S might have been cut off from some really nice crystals in southern Arizona, not to mention some really large copper deposits.

Disturnell was a publisher of guidebooks, maps, tourist directories, railroads, etc. and without any real experience in drafting accurate maps or presenting valid statistics. His company simply drew upon whatever older editions were out there and plagiarized about anything. However, from what I can tell other publishers were doing the same sort of piracy.

I recently read a biography of James K. Polk, the 11th President of the U.S. (1845-1849). Like collecting strange minerals, I am a sucker for reading about "relatively unknown" U.S. statesmen (Millard Fillmore, anyone?) So, Polk was a strong promoter of territorial expansion, the *Manifest Destiny* of the U.S. -- all the way to the Pacific Ocean. However, he had a small problem with land claimed by Mexico in the southwest and the "Oregon Question" in the northwest---not to mention the Republic of Texas (Fig.1) and the fledging Republic of California. Of course, no one bothered to consult with the Native Americans living in the area.

Fig. 1. Map of the Republic of Texas. The land claimed by Texas is in light green, while administered territory is in dark green. Public Domain photo.

Polk seemed most concerned with acquiring Texas as a first step to continental domination. The Texians had declared independence from Mexico in 1836 but of course that action precipitated a couple of well-known battles that are ingrained in Texas history books: the Alamo, and Goliad (Texians losing), and San Jacinto (Texians winning). After the Battle of San Jacinto, Mexico, really the losing general Santa Anna, and the Texians signed the Treaties of Velasco (plural since one copy was public and one secret). The important part, at least for many Texians, was the establishment of the Republic's southern boundary as the Rio Grande River (rather than the Nueces River to the north). The kicker to the Velasco document---the official Mexican government did not accept the Treaty (Santa Anna did not have signing authority), especially the Rio Grande part, and Mexico continued to claim Texas, and especially the land as far north as the Nueces (Nueces Strip).

In 1845, the U.S. annexed (mostly with permission) the Republic of Texas---with boundaries at the Rio Grande (although this boundary was not explicatively stated in the congressional annexation resolution). Texas then became the nation's 28th state. Mexico had stated for years that if the U.S. annexed Texas, a region they still claimed, war would be inevitable, and so it came to be. The President sent General Zachery Taylor (future 12th

(Continued on page 4)

President) to south Texas to show the flag and construct a fort (Fort Texas) on the banks of the Rio Grande. After a battle with Mexican forces (*Thornton Affair*) President Polk claimed Mexico soldiers were on U.S. soil, north of the Ro Grande, and had "shed American blood on American soil." War was declared in May 1846 and finally ended in 1848 with the signing of the Treaty of Guadalupe Hidalgo *(Treaty of Peace, Friendship, Limits and Settlement between the United States of America and the Mexican Republic).* With this treaty the U.S. acquired Texas, California, and parts of New Mexico, Arizona, Nevada, Utah, Wyoming and Colorado (Fig. 2).

Fig. 2. Map showing land ceded to the U.S. by Mexico with the Treaty of Guadalupe Hidalgo. Photo courtesy of World Book (1999).

Here is where John Disturnell comes in. His maps of the southwest, mostly plagiarized and not quite accurate, essentially were the only game in town and therefore were used in the Treaty of Guadalupe Hidalgo---but in different versions. The seventh version of the map (*The Republic of Mexico*) was attached to the U.S. copy while the 12th version was attached to Mexico's copy. However, since Disturnell plagiarized previous errant maps the documents used in the Treaty negotiations were also in error, especially concerning the location of El Paso and the Rio Grande River; both were key points is establishing the international boundary. The Treaty specified that the southern U.S.-Mexico boundary would follow the River from its mouth to a point eight miles north of El Paso and then head west. Well, Disturnell's errant map showed El Paso to be about 35 miles further south and about 100 miles further west than the "correct" location determined by various surveys. It stands to reason that Mexico favored the map while the U.S. was partial to the land surveys. The critical point with the U.S. was a possible route for a southern transcontinental railroad trending through southern New Mexico, the Mesilla Strip.

President Franklin Pierce (1853-1857; the only President ever elected from New Hampshire) was often called a "doughface", a northerner with southern sympathies. He had selected Jefferson Davis, the future President of the Confederate States of America, as his Secretary of War and yielded to Davis' insistence to locate a southern route for a future transcontinental railroad. So, he sent James Gadsden to Mexico in order to purchase a rather large hunk of land covering southern New Mexico (west of the Rio Grande) and about the southern one-third of Arizona. The expanding nation also wanted the northern tip of the Gulf of California in order to build another seaport; however, Mexico would have then been shut off from the Colorado River and would not accept the terms. The Gadsden Purchase was ratified by the U.S. Senate in mid-1854 and the last major land acquisition to the lower 48 was completed, mainly to appease southern congressmen and their dreams of the first transcontinental railroad linking southern states to the Pacific Ocean (Fig. 3).

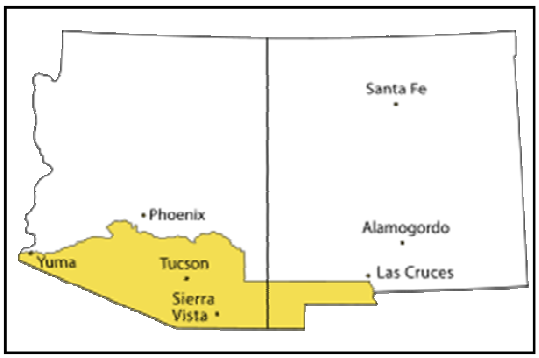

Fig. 3. Land acquired via the Gadsden Purchase. Public Domain map.

Of course, the initial transcontinental railroad was built in the north across Nebraska, Wyoming and Utah into California; however, the Gadsden Purchase did include that large hunk of southern Arizona. And, that parcel included Tucson, and the gigantic metallic deposits of places like Bisbee, Tombstone, Tiger, Old Hat/Mammoth, Old Yuma, Ajo, Ray, the mines in the Patagonia and Catalina Mountains, and a host of others. Silver, gold, lead and some other metals were extracted from many mines in southern Arizona; however, when I think of Arizona

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metals my first thought is copper, and copper, and more copper. Since the early part of the 20th century Arizona is usually listed as the leading U.S. state in the production of copper, not all of it in southern Arizona (remember Jerome and Clifton) but much of it was located in lands obtained via the Gadsden Purchase for a whopping 10 million dollars.

Most rockhounds have, in their collection, at least a few specimens of native copper. Generally the nuggets (mostly flattened blogs) are from the Keweenaw area of Michigan where Precambrian rocks of the Mid- Continent Rift System produced prodigious amounts of the metal, some even found as large boulders. Arizona rocks are famous for yielding crystals of native copper often growing as arborescent masses or tangled branches. My modest collection (Figs. 4-6) has three specimens from the 79 Mine near Hayden, and a couple labeled "Bisbee" without additional information about a specific mine.

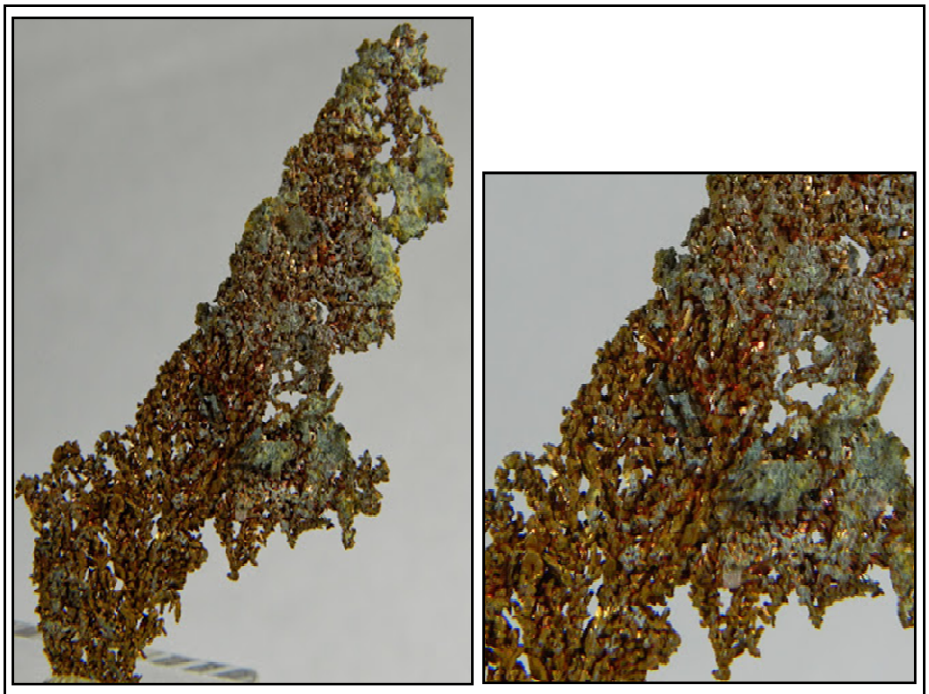

Fig. 4. Crystals of arborescent copper, Bisbee, Arizona length ~2.0 cm. Right: close-up of left photo showing crystals.

So, although the southern congressional delegation missed out on an early transcontinental railroad, significant minerals were later mined on lands acquired through the Gadsden Purchase. If it had not been for John Disturnell's plagiarism and errant maps, and for three relatively unknown Presidents---Franklin Pierce (signed the Gadsden Purchase), Zachary Taylor (commanded troops in Mexico), and James K. Polk (acquired large tracts of land) --- these critical metallic resources may have remained with Mexico.

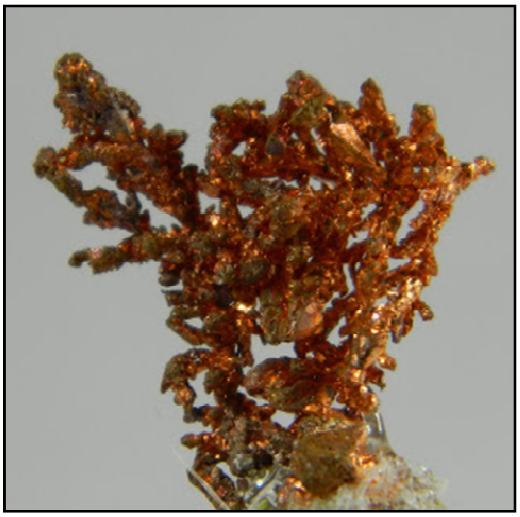

Fig. 5. Arborescent copper from Bisbee. Length ~1.4 cm

In this short posting I can't begin to explore all of the ramifications, back-room dealings, implications, lies, interesting facts, etc. associated with the Mexican War and the later Gadsden Purchase---they are fascinating. For example, many of the well-known army officers in the Civil War (on both sides of the conflict: Robert E. Lee, Ulysses S. Grant, George Meade, Thomas "Stonewall" Jackson, Winfield Scott) were veterans of the Mexican War. John C. Fremont raised the U.S flag in California and later was the first presidential candidate (1856) of the new Republican Party. Franklin Pierce won the presidency by defeating his old military commander in Mexico, Winfield Scott. U.S. Grant became the 18th President of the U.S., and then there were the persistent questions about slavery and the introduction of "free states" or "slave states" into the Union. And in Washington, a congressman from Illinois was asking embarrassing questions about the administration and the War.

There is more selfishness and less principle among members of Congress than I had any conception of before I became President of the U.S. ~ James K. Polk

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Fig.6. A: Crystalline copper from 79 Mine near Hayden, AZ. Length ~1.5 cm

Fig.6. B: Crystalline copper from 79 Mine near Hayden, AZ. Length ~ 2.1 cm

Fig.6. C: Crystalline copper from 79 Mine near Hayden, AZ. Length ~ 3 cm

CSMS PUBLIC SHARE DRIVE

Each month the CSMS receives information that some of our members may have an interest in reading; however, adding all of the information to the newsletter or sending multiple emails is not practical. In an effort to share this information, a public share drive has been created and will be maintained by the CSMS Editor. The newsletter will contain a general link to the drive or a specific link reference from an article to a particular document or folder. In most cases, clicking the link will open a new browser window to the shared document or folder. If a link does not work, copy and paste or type the full link into your internet browser (e.g., Internet Explorer, Google Chrome, Firefox, etc.)

Currently, the CSMS public drive contains four folders: Geologic Mapping Competition, Newsletters—Local Clubs (with subfolders for each club), RMFMS Convention Package, and WIPS Fossil Flights Symposium. Other documents include: 2015 CSMS Student Research Grant, Do-It-Yourself UV Lights for Rockhounds (complements of the Lake George Gem and Mineralogical Society), and Pete Modreski's Earth Science Events Calendar (contains items not yet published in the *Pick & Pack*.)

The link to the CSMS share drive is: http://1drv.ms/1y3tj27. If you have information that you would like to share or if you have problems accessing the drive, please email csmseditor@hotmail.com.

Other Events of Interest to CSMS Members—Continued

Saturday, Mar. 21, 9 a.m. – 5 p.m., **The Colors of Minerals** workshop, featuring Dr. George Rossman, of Caltech; Berthoud Hall, Colorado School of Mines, sponsored by the Friends of the Colorado School of Mines Geology Museum. Please contact the Museum or see the Friends facebook page for details.

Friday, Saturday, Sunday, March 27-29, The **Fort Collins Rockhounds** Club presents the **54th Annual Gem and Mineral Show 2015** on March 27 (Friday, 4-8 p.m.), March 28 (Saturday, 9 a.m. - 6 p.m.), and March 29 (Sunday, 10 a.m. - 5 p.m.) at The Ranch/Larimer County Fairgrounds in the Thomas M. McKee Building, Loveland, Colorado. Parking is free for this event. Adult admission is $4.00 for one day or $7.00 for a 3-day pass. Student (12-18 years old) admission is $1.00. Children under 12 free when accompanied by adult.

Additional future scheduled events can be found in the Earth Science Events Calendar at: http://1drv.ms/1y3tj27

Pebble Pups Corner

Making a Flint and Steel Fire

by Jack Shimon

This project all started when I made a flint knife. I was showing it to my Grandpa and he suggested we use some flint to make a fire. After that, we researched online how to start a fire with flint and steel. It sounded a lot more complicated than just making a spark with these two components but I became obsessed with the idea. So my Grandpa and I spent an afternoon collecting materials and trying to make a fire this way.

Step 1- Gathering the supplies: You can't start this project without the proper materials, which are shown below. You need jute rope, char cloth, steel and flint. You must first prepare the char cloth. To do this I cut up small pieces, about 1 x ½ inch, from my dad's old undershirt (you should ask first before taking a shirt), put them in an Altoids tin (not overlapping) with holes punched in the top and then place the tin in the embers of a fire we started in our fire pit using a lighter. We made about 10 pieces so I would have a supply of them. As the box heats smoke rises from the holes and the cloth turns black. It is fairly crumbly and will ignite really easily. The jute rope we cut into pieces about 3 inches long and then unraveled each strand to create a nest of fine jute fibers. I found flint in my rock bin that I found on a collecting trip and we bought a steel file from Home Depot.

Step 1: Supplies—Jute rope, char cloth, steel, flint.

Why flint? I tried using different rocks I had collected in my yard and on trips. Some of them broke because they were too soft, and none of them caused a spark until I used flint. Flint is a hard sedimentary form of quartz. When flint strikes steel the hard edge of the flint shaves off a particle of steel which exposes iron which then reacts with oxygen in the air creating a spark.

Step 2: Prepare the fire pit.

Step 2- Prepare the fire pit: Before trying to create a spark and light the fire you need to set it up. My method was to start by sticking a little newspaper in, balled up. Then I added lots of pine needles. After, I put some small wood kindling on top. Caution— don't build the fire with wet twigs or needles.

Step 3- Getting a spark: This is much harder than you expect and even when you get a spark it doesn't necessarily ignite the char cloth, so you have to be very patient!! Take a piece of flint and a steel file and strike with great force while holding them close to a piece of char cloth. I tried several ways as shown- holding the char cloth on the flint in one hand and striking with the other. But I had the best luck putting the flint on top of the char cloth (with most of it visible) all on a flat surface like a log and then striking the flint with the steel. When you finally get a spark that lands on the char cloth you need to act fast. It will be obvious what is happening because the char cloth will turn orange where the spark hit and will start to burn.

Step 3a: Strike the flint with a steel file.

Step 3b: Place flint on char cloth.

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Step 4- Lighting jute rope with the char cloth: This is the most exciting step. We managed to ignite many jute rope nests but some of them went right into flames and we dropped them before we even got them to our fire pit. These components burn very fast. With the lit char cloth stick it quickly into the jute rope nest and blow very hard. You will start to see smoke and then the whole thing will catch on fire. You want to be ready to stick it in the fire when this happens.

Step 4: Light jute rope with char

Step 5: Light the pile of sticks with the ball of fire.

Step 5- Ball of flame used to light the pile of sticks: Once your jute rope nest is on fire, before it burns your fingers or you drop it, you need to stick it in the fire you built at the bottom so the newspaper and pine needles will catch on fire. You might need to blow on it some more as well. The goal is to create enough flame that the kindling catches on fire. I had a difficult time with this part and had to light several jute rope nests to get my fire. I also got really tired of blowing so hard on it.

Step 6- Get the fire going: If you manage to get your kindling burning you need to pile on more sticks and small twigs. As it grows, add logs. This is the same method we use any time we start a fire when we are camping or using our fire pit. We have worked so hard we don't want to spoil it so we have a pile of logs ready to go and chairs set up around the fire pit for a night of fun.

Step 6: Add logs as the fire grows.

Step 7- Enjoying s'mores and perhaps a scary story: No fire is complete without s'mores. Recommended additional supplies before starting your flint and steel fire are marshmallows, Hersheys chocolate and cinnamon graham crackers. With your nice hot fire you can roast a squishy marshmallow and then make the perfect s'more. I invited my friends over and we also told scary stories in the dark. Enjoy!

References

"Making fire with flint and steel". https://www.youtube.com/watch?v=IERpeSRBew0

"Flint". http://en.wikipedia.org/wiki/Flint

About the author: Jack Shimon is in 4th grade. He is an award winning poet, writer, and researcher. Jack was an invited speaker at the Denver Gem and Mineral show. Jack has wide interests in geology, paleontology, and geoarchaeology. He has spent half of his life as a member of the Pikes Peak Pebble Pups. He lives at home with his family and his dog Comet.

Colorado Springs Mineralogical Society
2015 Undergraduate Student Research Grants

Dr. Michael Nelson csrockguy@yahoo.com

The Colorado Springs Mineralogical Society (CSMS) Student Research Grant Program promotes and supports original research on Colorado geology by undergraduate students. Grants are awarded on a competitive basis and are judged on how well the proposed research will advance the science of geology and its related branches, within the State of Colorado. To learn more about the 2015 Student Research Grant Program and to apply, please download the **2015 CSMS Student Research Grant** at: http://1drv.ms/1y3tj27. The deadline for submission is April 28, 2015.

New Field Trip Director

The CSMS Board is excited to announce our new Field Trip Director, Sharon Holte. Sharon has been a member of the CSMS for 10 years and has served on the Board as Member-at-Large, Pick&Pack Editor, and Secretary and is currently the coordinator for the Lapidary Group. If you have suggestions for field trips this season and/or would like to lead a trip, please contact Sharon at sharonrocksco@gmail.com. Please see the Secretary's Spot below regarding the field trips currently planned for the upcoming rock hounding season.

Passing of a fellow rock hound: It's with sadness that we announce the passing of Glenn Laidlaw, on Sunday, February 22, 2015. Glenn was a friend of many in the Rocky Mountain Federation.

2015 CSMS Officers

Mark Lemesany, President

Jean Miller-Luce, Vice President

Melanie Glascoe, Secretary

Ann Proctor, Treasurer

Lisa Kinder, Editor

Ariel Dickens, Membership Secretary

Doreen Schmidt, Member-at-Large

Yam Yamiolkowski, Member-at-Large

Roger Pittman, Past President

2015 CSMS Chairpersons

Kim & Bodie Packham, Show Chairs

Sharon Holte, Field Trip Director

TBD, Science Fair Chair

Frank & Ellie Rosenberg, Librarians

Georgia Woodworth, Social Committee

Ann Proctor, Store Keeper

Jackson Pierce, Webmaster

Sub-Group Responsibilities for Refreshments for General Assembly Meetings

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

SECRETARY'S SPOT
by Melanie Glascoe

Minutes of the Colorado Springs Mineralogical Society General Meeting February 19, 2015

Reported by Acting Secretary Ronald "Yam" Yamiolkoski, Member-at-Large

The meeting was called to order at 7:00 PM, by Mark Lemesany, President, followed by the Pledge of Allegiance.

Program for the evening: a "practice" presentation by Steven Veatch (our Pebble Pups and Earth Science Scholar Chair) and three of his Earth Science Scholars: Blake Rehner, Jenna Salvat, and Teddy Reeves. The presentation was in preparation of their presentation at the upcoming Western Interior Paleontological Society's Founders Symposium on March 14 and 15, 2015. With the use of PowerPoint slides, the three Earth Science Scholars and Steven led us through their presentation: "Pikes Peak Paleontology" highlighting new and original work by them as a result of their efforts with Steven. Because of time, they were not able to share their entire 2.5 hour presentation, but what they did share was enjoyed by all. (See the February issue of Pick&Pack for more information on Steven and his fellow presenters.)

Other Business:

1. There was a discussion of upcoming field trips. Yam advised the members present that we would once again be going to Fountain Creek the first Saturday in May. Also, that we have been invited by the Gold Prospectors of Colorado (GPOC) to join them on Saturday, May 10th at their claim on the Arkansas River for a fun day panning for gold and learning about what other methods are used to collect gold from a placer. August 22nd, Yam will be leading a field trip to the CSMS Peridot Claim. GPOC will be guests of CSMS; members are encouraged to come along and share the experience. Lastly, Marge Regal has planned a multi-day field trip to Utah and western Colorado in early May. Detailed information for all of these field trips and others as they are developed will appear on the CSMS Calendar.
2. The minutes of the November General Meeting as they appeared in the December Pick&Pack were approved.
3. Group Announcements were made as usual. We have a new Photography Group starting up. Contact Gary Del Valle by e-mail at gdv123@comcast.net if you are interested in joining the group.

The meeting was Adjourned at: 8:35 PM

The Pulver Gulch Prospect: A Hidden Reserve of Metamorphic Minerals

by Steven Wade Veatch

As U.S. Highway 24 approaches Wilkerson Pass, Colorado, the 1.7 billion-year-old metamorphic rocks of the Puma Hills replace the younger Pikes Peak Granite. The Puma Hills were formed by the metamorphism of sedimentary rocks that were once oceanic sediments—sand, mud, and clay.

Before the highway reaches the summit of Wilkerson Pass, it goes past the dirt road to the M Lazy C ranch. The ranch road heads north into the hills where forest road 247 soon intersects the winding ranch road, and at this junction forest road 247 bears east, into the deep forest, past the old Pulver Gulch prospect.

Figure 1. Scheelite crystals and muscovite mica showing fluorescence under ultraviolet radiation. Image courtesy of Commons Wikimedia: image released to public domain.

The geology at Pulver Gulch is unlike the surrounding area. The sediments at Pulver Gulch contain more calcium carbonate, from impure and muddy limestones, than the surrounding ocean sediments that formed the Puma Hills. These calcareous sediments were heated, compressed, and transformed into calcium silicate rocks that host a group of interesting metamorphic minerals that include scheelite, vesuvianite, wollastonite, grossular garnet, and diopside. The Pulver Gulch prospect's exploratory dump is an excellent place to search for these metamorphic minerals.

Prospectors worked the Pulver Gulch prospect over fifty years ago looking for scheelite (Figure 1), a mineral that formed in the metamorphic rocks at the site. Scheelite is an important source of tungsten. Tungsten has many industrial applications, including filaments in light bulbs. Since scheelite is strongly fluorescent, prospectors searched the area with battery powered black lights at night.

Figure 2. Vesuvianite crystal. Image courtesy of the CSMS blog by Mike Nelson.

Brilliant brown granular crystals of vesuvianite (Figure 2), a basic calcium magnesium silicate mineral, are common here. Short prismatic crystals can also be found. This mineral was named for Mt. Vesuvius, where it was discovered on the slopes of the Italian volcano.

Figure 3. Wollastonite with diopside (green), garnet (red) and vesuvianite (dark brown) from the Stanislaw mine near Szklarska Poreba, Izerskie Mountains, Lower Silesia, Poland. Image courtesy of Wikipedia.

Wollastonite (Figure 3), a calcium silicate, occurs as milky-green masses of needle-like crystals at this site. Some of the massive specimens are larger than a football. This mineral is faintly fluorescent. Wollastonite is used as a component in refractory or heat resistant ceramics and as a filler for paint.

Thick, banded layers of brown grossular (Figure 4), a member of the garnet group, are associated with wollastonite at the Pulver Gulch prospect. These garnets also formed from the impure limestones and occur here in a massive and granular form.

(Continued on page 11)

Figure 4. Garnet crystals from the Jeffery Mine, Quebec. Image courtesy of the Canada. Bureau of Mines, specimens C-01687.

By breaking open the host rocks on the Pulver Gulch dump, well-developed microcrystals of dark green diopside (Figure 5) are exposed. The diopside crystals, a calcium magnesium silicate, are embedded in sparkling white calcium silicate rocks. These specimens of diopside can be interesting to micromount collectors.

Today the Pulver Gulch dump is largely undisturbed. Occasionally a small group of geology students from Colorado College will stop by the dig site to study the local geology in this peaceful part of the Puma Hills.

Figure 5. Diopside crystal from De Kalb, New York. Image courtesy of Wikipedia.

References:

Chesterman, Charles, 1978, The Audubon Society Field Guide to North American Rocks and Minerals, Alfred A. Knopf, New York.

Chronic, Halka, 1980, Roadside Geology of Colorado, Mountain Press Publishing Co, Missoula.

Mineral Galleries, World Wide Web homepage URL: http://mineral.galleries.com/minerals/silicate/vesuvian/vesuvian.htm

Wobus, R.A., 1997 (Williams College) personal communication.

Registration for the two-day event is $95 for a weekend package or $60 per day if attending for one day. A highly discounted rate of only $15 a day is available for students and teachers. For registration and more information, visit http://westernpaleo.org/symposiums/2015_pages/about-2015.html. For the latest updates, follow the "WIPS Founders Symposium" Facebook page.

Uptop

by Steven Wade Veatch

The winter snow blankets the town of Uptop.
A wind blows hard, swirling angry flakes of snow.
Light from coal-oil lamps falls through cabin windows—
casting a golden glow down a silent, snowy street.

People of Uptop long for the days of springtime;
the changing realm of white to robust green,
when summer's blooms spread cheerful colors—
and alpine beauty stirs dreams of travelers coming on rails.

For decades they came over the mountain pass and endured;
some searching streams for gold or looking for silver in mineral veins.
Others started ranches where the grass and water was good.
Each one tamed the West and the grieving mountains.

The depot still stands, built by section hands in 1877,
to meet countless fortune seekers coming over old La Veta Pass.
Today the rails are gone and the travelers are few.
Only a small number remain in the small town of Uptop.

On Sunday at the Chapel by the Wayside, among the trees,
a church bell breaks the weekly silence—renewing the spirits—
of humbled hearts to stay for another peaceful year,
in Uptop, Colorado, the secluded and cherished place.

DIRECTIONS TO UPTOP GHOST TOWN, COLORADO:
TWO turnoffs to Uptop ghost town are located off Hwy 160:
• 20 minutes east of Ft. Garland, CO: .turn at mile marker 276:
• 15 minutes west of La Veta or 20 min. west of Walsenburg: turn at mile marker 281

Classifieds

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:
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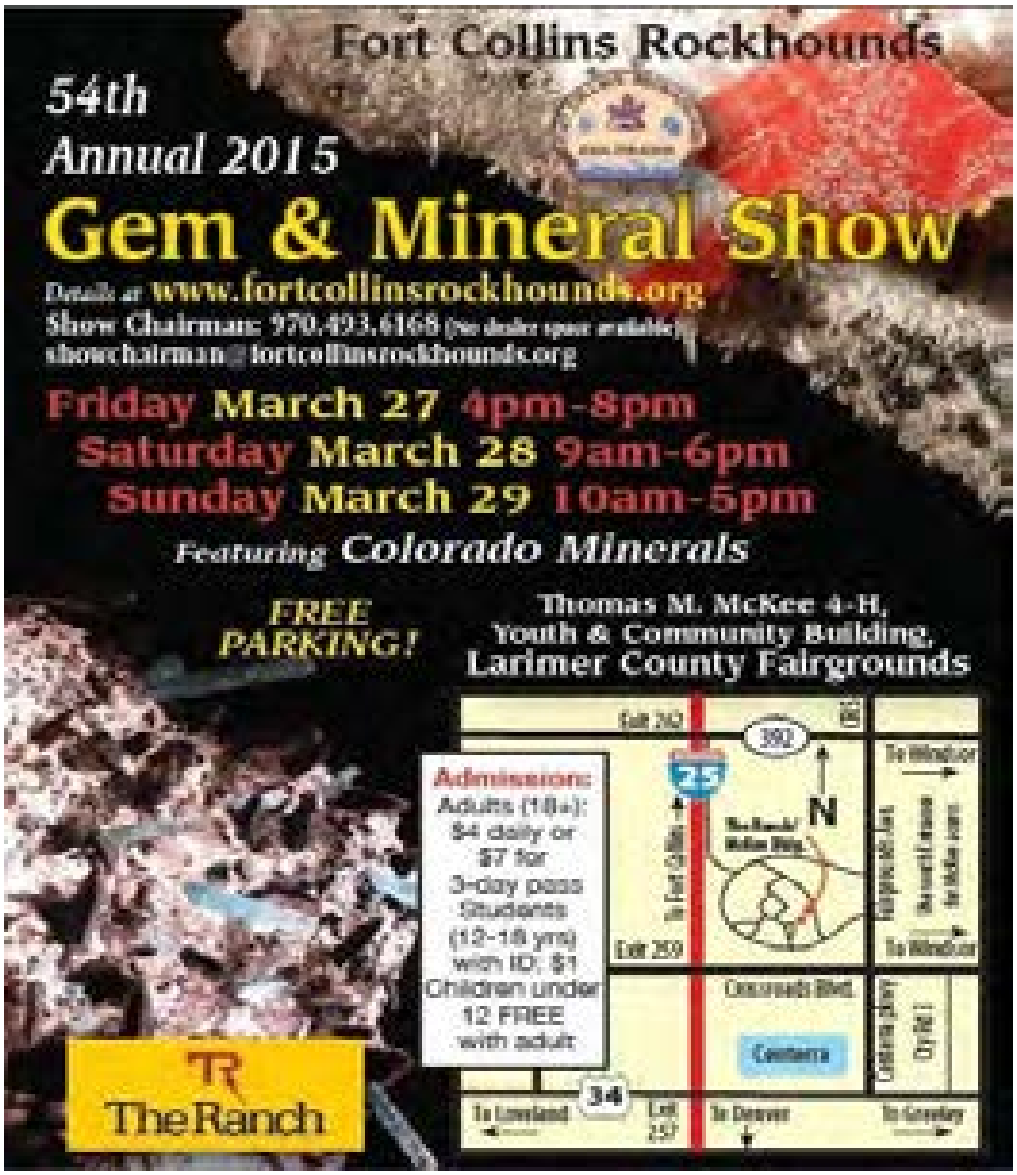

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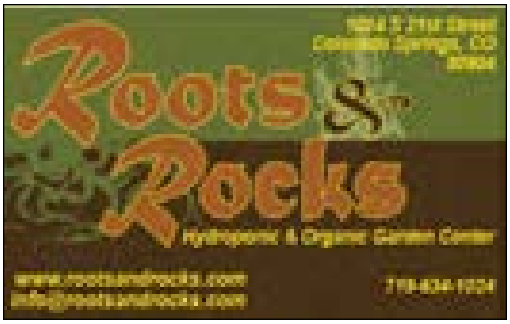

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CSMS is an incorporated nonprofit organization with these goals:

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.

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