

PICK&PACK

THE BULLETIN OF THE COLORADO SPRINGS MINERALOGICAL SOCIETY Published Since 1960

JULY & AUGUST 2009

PICK&PACK

Volume 49 Number 7

COLORADO'S CLINE FAMILY: MONO, ANTI, & SYN

BY MIKE NELSON, CSMS

Growing up in Kansas I was quite used to the term "layer cake geology"—the rocks are relatively flat, at least on the surface, and it is fairly easy to predict the ages of outcrops. After stripping off the glacial debris in the NE one-fifth, one finds the youngest rocks in the west and the oldest in the eastern part of the state. As an example, in driving I-70 from the CO-KS line to Kansas City, the traveler would traverse rocks ranging from the late Cenozoic Ogallala Formation (~2-6 my) through a nice section of Cretaceous rocks (65-142 my), to fantastic exposures of fossiliferous Permian (248-290 my, the Flint Hills) and Pennsylvanian rocks (~290-323 my, Osage Cuestas). Triassic and Jurassic strata are missing, and the oldest rocks cropping out in Kansas are of Mississippian age (~323-354 my) in the extreme southeastern corner. One must look in the subsurface to locate older rocks. The traveler also will not notice any appreciable tilting of the beds - layer cake geology at its best; however, erosion by streams has produced fine exposures.

*Living on a layer cake
Way down under the ground
Living on a layer cake
Take a slice and look around.*
Song by Chris Rawlings

You can imagine my surprise on my first trip to Colorado (in grade school) when I noticed that some rock layers were not flat but were actually "standing up!" How in the world did that happen? In the pre-internet days the only possibility for an answer was waiting until school started in the fall and then consulting an ancient set of *encyclopedias*. In the meantime, I continued to collect rocks and minerals with the most interesting specimens being those from local sand and gravel quarries. Little did I realize that "those most interesting" minerals (mostly jasper, chert, and quartz) had a source area near the "standing up rocks." At any rate, I was hooked on geology.

What I did find in the encyclopedia was that mountain building and igneous rock events, pushing up from below, had tilted and bent the overlying sedimentary rocks. Of course, in the days before our understanding of plate tectonics, the encyclopedias really did not explain how these mountains formed. As I grew older, and with an additional understanding of geology, I became fascinated with the bending and folding of rock layers, especially those that formed topographic or geographic features.

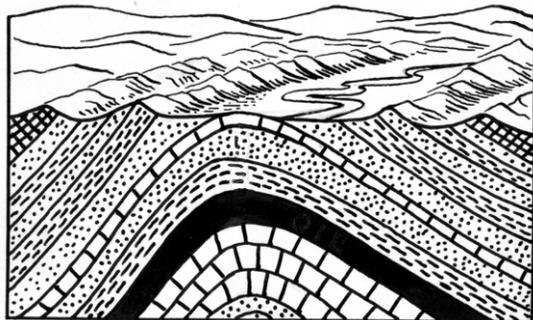


Fig. 1. Cartoon sketch of an anticline with oldest rocks in the center and beds dipping away from the axis. Sketch courtesy of Wikipedia.

Colorado and the mountains east are fortunate to have a wide variety of folded rocks that are described by Matthews and others (2003) as "metamorphic folds, basement cored folds, salt-cored folds, monoclines, syn-depositional folds, anticlines, synclines, domes, basins, refolded folds, evaporate-flowage folds, collapse folds, disharmonic folds, and forced folds." This small article will focus on some of the larger geographic features.

Anticlines are folds where the limbs dip away from the axis (convex-up) and where the oldest rocks are in the center of the fold (Fig. 1). The cartoon in Fig. 1

CSMS is an incorporated non-profit 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 monthly to assist and promote the above.

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Colorado Springs Mineralogical Society

Founded in 1936

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shows a nice symmetrical fold while in reality most anticlines are asymmetrical, plunging, or even overturned. In addition, erosion often planes off the top of the structure so that the fold does not form a topographic high, and one



Fig. 2. Aerial photograph of Split Mountain Anticline at Dinosaur National Monument. Resistant beds nicely outline the nose of the fold; all beds dip away from the core. Photo from mapcard.com.

must examine geologic maps and/or aerial photos to determine size and extent. A structural high (anticline) does not always produce a topographic high (hill/mountain). At other times the structure is quite visible as resistant rocks in the limbs form an impressive outline of the fold (Fig 2). Most anticlines in Colorado are the result of compression associated with the Laramide Orogeny (building of the Rocky Mountains). Imagine piling several carpets, of different colors, on top of each other and then pushing them against a wall. The carpets would "bulge up" into several "anticlines" due to the compressive forces.

Many of the larger mountain ranges in Colorado, such as the Front Range, are actually large anticlines where steeply dipping sedimentary rocks are exposed along the flanks, and Precambrian basement rocks crop out in the center of the fold. The original extent of the sedimentary rocks was "over" the Precambrian rocks; however, with uplift, the sedimentary rocks were eroded off the top.

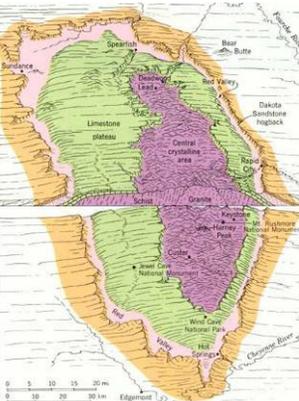


Fig. 3. Sketch of the Black Hills showing the Precambrian-cored center of the anticline (Strahler and Strahler 1978).

Geologists often term this type of large fold as a "basement-cored anticline." The Black Hills of South Dakota (Fig. 3) represent a miniature version of a Laramide basement-cored anticline, and one that is easy to see and understand. In South Dakota, vertical movement has produced a topographic high corresponding with a structural high. In the Black Hills, at the center of the anticline (sometime referred to as a dome), are rocks of Precambrian age. As one moves out from the center the sedimentary rocks of Paleozoic and Meso-

zoic age grow progressively younger. What makes the Black Hills nice to study is the lack of large faults that often complicate the geological understanding of Colorado's mountain ranges.

Smaller anticlines (non basement-cored), also due to compression and folding, are often found off the flanks of the mountain folds. Two of my favorite vest pocket anticlines are Split Mountain at Dinosaur National Monument (Figs. 2 and 4) along the CO-UT state line, and Sheep Mountain Anticline in Big Horn County Wyoming (Fig. 5).

The Green River at Split Mountain cuts a fantastic canyon right through the heart of the anticline, and a raft ride takes the paddler through both limbs and the core of the fold. Sheep Mountain is almost the "perfect" anticline; photos of the structure are in hundreds of geology texts.

Some anticlines also are commercially important as they serve as traps for petroleum (oil). The Rangely Anticline in northwestern Colorado was discovered in 1901 and has produced between 800-900 million barrels of oil, mostly from the Weber Sandstone at subsurface depths of ~6400 feet. Secondary Recovery (water injection) started in 1957 while Tertiary Recovery (injection of CO₂) commenced in 1986, and the anticline is still producing. Note in



Fig. 5. Sheep Mountain Anticline in Big Horn County, Wyoming. Note beds dipping away from the core of the fold. Photo courtesy of Louis J. Maher, Jr.

Fig. 4 that the Weber is well exposed and surficial at Dinosaur National Monument, a mere ~30 miles away.

Synclines are the opposite of anticlines with the limbs dipping toward the center of the axis, convex-down, and where the youngest rocks are in the center of the fold. Most synclines associated with the Colorado mountains are small in stature and rarely form topographic features. The Cub Creek Syncline at Dinosaur National Monument is an easy fold to observe (Fig.6).

Large scale basins are the opposite of the basement-cored anticlines and include Laramide features such as the Denver-Julesburg Basin east of the Front Range (70,000 sq. mi.) and the Piceance Basin in northwest Colorado. Both of these are structural basins (large synclines) and do not form topographic lows; and, therefore, do not show up as "landscape features". There is a formation elevation change (in the subsurface) of about 9000 feet from the edge of the Denver-Julesburg Basin to the center.



Fig. 4. Dipping rocks (Weber Formation) on the flank of Split Mountain Anticline with Green River in foreground.



Fig. 6. Gently dipping limbs of the Cub Creek or Jensen Syncline (Dinosaur National Monument). Foreground rocks are the Jurassic Morrison Formation. Red rocks in distance (showing the fold) are Triassic and Jurassic in age.

some of the most impressive monoclines in the world with the "bend" commonly associated with subsurface faulting in the underlying Precambrian rocks. Monoclines at Colorado National Monument and Dinosaur National Monument are especially impressive (Figs. 7 and 8).

This small article cannot begin to cover all of the standing, contorted, disturbed, folded, and bent rocks in Colorado. Virtually any



Fig. 7. Blue Mountain at Dinosaur National Monument. Notice the horizontal beds on top of the mountain which then bend and dip steeply down the flank. The massive sandstone is the Weber Formation which reappears in the subsurface (-6400 feet) at the Rangely Oil Field approximately 30 miles to the southeast.

of the rocks in the western one-half of the state are folded and faulted, and a drive on any of the roads leading west will reveal some of the magic. Purchase a geologic map from the State Survey, and take a road trip!

As for my circuitous route from Kansas to Colorado—"I came here from the city, a thousand miles away; Now I sing a mountain song of the night wind in the pines; I've seen the quiet splendor of a field of columbine," ("The Mountain Song," John Denver).

REFERENCES CITED

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 Strahler, A. N., and A. H. Strahler, *Modern Physical Geography*, John Wiley & Sons, 1978.



Fig. 8. The great monocline at Colorado National Monument. The lower gray rocks are Precambrian in age, the slope forming unit is the Chinle Formation (Triassic) while the upper massive sandstone is the Wingate Formation (Jurassic).

FROM THE LIBRARY

BY FRANK ROSENBERG, CSMS



Every now and then it is fun to revisit an old friend. *Colorado Gem Trails and Mineral Guide* by Richard M. Pearl published by Sage Books is one such old friend.

Of course, this guide with maps and mileage logs probably set the standard for mineral guides.

This handy book has been around for a long time. It was copyrighted in 1958. The CSMS library has 2 copies. I first became familiar with this masterpiece in 1972 when we were still living in New York. Ellie and I had scheduled a trip to Colorado Springs to do some crystal hunting. We borrowed a copy of *Colorado Gem Trails and Mineral Guide* from a good friend of ours who had been rockhounding for most of his life (at that time about 25 years). We had strict instructions to make sure we brought the book back to him in good condition because he believed it to be out of print and he was not sure it could be replaced. Even though, in 1972, some of the directions were at that time out dated, we were able to find and get some nice specimens of barite in Hartsel and garnets from the Sedalia Copper Mine.

The book is interesting to browse through and gives you a good idea of where and what is available to find in this very abundant crystal collecting area. Some detective work will be needed to find many of the exact locations since after fifty years there have been numerous changes. This guide is certainly a good place to start.

The above guide is only one of many interesting resources we are fortunate to have available in the CSMS Library. Library material may be signed out by any CSMS member. The library inventory is on the CSMS website. Email us for any book you wish to sign out.

We encourage your donations of any mineralogical books and thank the Casto family for their donations last month.

JULY PROGRAM

The July 16th General Assembly program will be a presentation by **Kevin Witte**, CSMS member, detailing his travels and collecting adventures to New Mexico.

Kevin has a great 'wit'-te and a sharp eye for finding treasures. Just ask all the kids who got free samples of his petrified wood at the Rock Fair!

ASK A GEOLOGIST

BY MIKE NELSON, CSMS

Andy writes: *In past articles you have talked about the Fountain Formation. Is this formation related to Fountain Creek or the town of Fountain?*



Andy, this is a very intuitive question and gives me a good opening into the discussion of geologic formations and type localities. But first, to answer your question—yes, it is related to Fountain Creek.

As I have discussed before, geology is a very terminology-oriented discipline. And, unfortunately, many of the terms used in discussing “everyday” geology are new and somewhat confusing to the reader and listener. That is one reason why I have tried to fully explain most of the terms used in past columns—I want the reader to use correct geological terms in an everyday language when discussing rocks and minerals and fossils. Fortunately, the internet is a handy reference for getting information on the terms—as long as you are able to sort out the plethora of misinformation. A good desk reference book is the **Dictionary of Geological Terms** by Robert Bates and the American Geological Institute (I keep a well used copy on my desk) and available at booksellers like Barnes and Nobel. A much shorter, on-line version of common geological terms may be found at <www.Geo.tech.org>.

In addition to a somewhat complex terminology, there are numerous rules and regulations concerning the correct usage of these terms in the published literature; the “geologist’s bible” used by most writers to determine correct usage is **Suggestions to Authors of the Reports of the United States Geological Survey** and available online at <www.nwrc.usgu.gov/lib.lib_sta.htm>. Two of the most useful sections of this book are entitled “Suggestions As To Expression” and “Choosing The Right Word”. For example, these sections tell me about two words that often confuse writers: “outcrop” and “crop out”. The former is a noun while the latter is the verb. So, the Lyons Sandstone in Garden of the Gods crops out and forms fins (the outcrops). It may seem insignificant and trivial but correct terminology is an important element of a well constructed paper.

Another invaluable source of information for the geologist is the North American Stratigraphic Code <<http://ngmdg.usgs.gov/Info/NASCN/Code2/code2.html>> which presents information for “classifying and naming stratigraphic and related units”. The Code is directly related to this month’s question about the Fountain Formation, a stratigraphic (layered sedimentary rocks) unit.

A “formation” is the fundamental rock unit used by geologists to describe the sedimentary geology of a region. It is a unit that may be identified by its: 1) position in the stratigraphic (rock) column; 2) mapability on the earth’s surface; and 3) mineral/rock characteristics. The name of a formation is compound, that is, it contains two parts. The first part is a geographic name from a location where the unit was first studied and named (such as Fountain for exposures along the Creek). The second part is either the term “Formation” for exposures containing a variety of rock types, or a lithologic term (rock type) where exposures are of the same rock type, such as the Graneros Shale. Each formation should have a designated type locality and a type section (published in a professional journal) so that later workers may understand exactly the thoughts of the original worker(s).

Thus far it all sounds so simple, if only it was! Many of the formations named in the 1800’s and early 1900’s do not have precise type localities, let alone a type section. For example, the Fountain Formation was named (Cross, 1894) for “typical devel-

opment on Fountain Creek below Manitou Springs and at the head of Fountain Creek, El Paso Co, CO”. So, we know about where the type locality is located but the type section is undesignated. The Graneros Shale, named by G. K. Gilbert in 1896 when studying rocks east of Pueblo, also does not have a type section or a type locality. However, workers at the U. S. Geological Survey have designated a Principle Reference Section in lieu of a type section and allowed by the Code. Another interesting occurrence is with the Eagle Valley Evaporite Member of the Minturn Formation first named in 1958 from Eagle County, CO. It was redefined and elevated to Eagle Valley Evaporite in 1962 (with formation status), was changed to the Eagle Valley Formation in 1968, and then back to the Eagle Valley Evaporite in 1971, its current usage (I think). Perhaps beauty (or the name of a formation) is in the eye of the beholder!

At times geologists find it advantageous to subdivide formations into formal members in order to highlight rock units of special interest. A formation need not be subdivided into members although some will be completely divided while others will have only certain parts named. For example, the Niobrara Formation exposed along the Front Range is divided into the lower Fort Hays Limestone and the upper Smoky Hill Chalk members. As with formations, the unit has a compound name with a geographic “first” name, and the term “member” or a rock term as the “second” name. At other times geologists define informal members—the Colorado Geological Survey maps and divides the Upper Cretaceous Laramie Formation at Colorado Springs into the upper member, the middle sandstone member, and the lower member. One can distinguish between formal members and informal members by noting capitalization (or lower case) of the initial letter of each term.

Members may be further subdivided into beds with naming rules similar to formations and members. Most beds that I am familiar with have an economic significance, such as some of the coal or oil shale beds.

Finally, two or more formations may be combined into a group with the compound name consisting of a geographic term and the word “Group”. For example, the Benton Group consists of the Carlile Shale, Greenhorn Limestone, and Graneros Shale. Groups are commonly employed in large scale geologic maps.

It also might be of interest to examine type localities of other formations exposed in Colorado Springs: 1) Dawson Formation [1912] no type locality but named for Dawson Butte near Castle Rock, CO; 2) Laramie Formation [1888]—no type locality,

"exposed along Front Range"; 3) Fox Hills Sandstone [1862] - no type locality, named for the Fox Hills near Fort Pierre, SD; 4) Pierre Shale [1862]—no type locality, named for Fort Pierre, SD; 5) Niobrara Formation [1862]—no type locality, named for exposures near mouth of Niobrara River, NE; 6) Carlile Shale [1896]—no type locality but named for Carlile Station and Carlile Springs 21 west of Pueblo, CO; 7) Greenhorn Limestone [1896]—no type locality, named for Greenhorn Creek and Greenhorn Station, CO; 8) Graneros Shale [1896]—no type locality and no name derivation but USGS has named a Principal Reference Section in CO; 9) Dakota Sandstone [1862]—no type locality, named for Dakota, NE but type designated by Nebraska Geological Survey; 10) Purgatoire Formation [1912]—no type locality, named for Purgatoire Canyon, CO; 11) Morrison Formation [1896]—no type locality, named for Morrison, CO; Colorado geologists have designated a Principal Reference Section; 12) Lykins Formation [1905]—no type locality, named for Lykins Gulch, Boulder, CO; 13) Lyons Sandstone [1905]—no type locality, named for Lyons, CO.

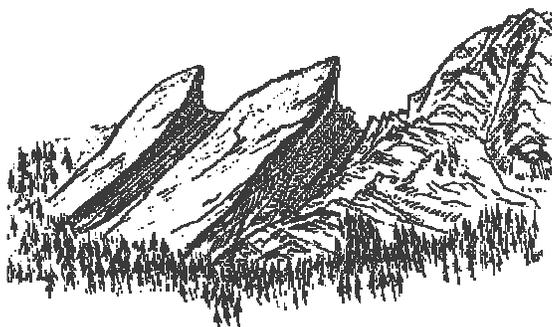
I hope this somewhat detailed explanation has helped you understand about the sometimes complex nature of naming geological units.

If you have questions about this article or other aspects of geology contact csrockguy@yahoo.com.

REFERENCES CITED

Cross, C.W., "Description of the Pikes Peak sheet [Colorado]: U.S. Geological Survey Geologic Atlas of the United States, Pikes Peak folio," no.7, (1894), 5p.

Gilbert, G.K., "The underground water of the Arkansas Valley in eastern Colorado, IN Walcott, C.D., Seventeenth annual report of the United States Geological Survey to the Secretary the Interior, 1895-1896; Part II: U.S. Geological Survey Annual Report," 17, pt. 2, 1896, p. 551-601.



*The Fountain Formation, drawn by Dick Gibson,
<<http://www.gravmag.com/fountain.html>>*

PRESIDENT'S CORNER

BY RON YAMIOLKOSKI, CSMS



In spite of a cool and dreary day with some brief drizzle, the Rock Fair was a success in so many ways. The first big way is that it helped the WMMI to be better known and to add to their treasury. Our speakers - Rick, Jack, Ray and yours truly - were well received. Jack Null's talk on Paleontology was standing room only. This is a definite 'do over'. Our friends at the

Gold Prospectors of Colorado did a great job working with both kids and adults, showing them how to pan for gold. The Adventure Club drummed up interest in metal detecting. Adventure Club/CSMS/Gold Prospectors member **Glenn Landry** seemed to be all over helping out, making folks laugh and having a good time. We will miss him when he moves to Texas. I hope everyone who attended got to see the cases provided by **Kevin Witte, Jack Null, Marj Regel, Ray Berry, and Jerry Suchan**. They were great and added to the professionalism of the Rock Fair. Our dealers had a pretty good day considering they were fighting the elements. All I spoke to said they would be back next year. We had two great food vendors who produced some super food. I know the curly fries and beef brisket were yummy. Roger handled the Kid's Area and brought a tent that kept him, his volunteers, and the kid's dry. I think the tent was originally meant for shade, but the clouds provided that in ample supply.

Last month I talked about the need for volunteers. I want to thank everyone who volunteered for the Rock Fair. Your help was greatly appreciated. In particular, I want to thank those folks who joined me at 6:30 AM to get everything setup. What a team effort and what a team: **Phil and Ann Benning, Clarke and Gail Curtis, Bob Germano, Keith Kuhn, Mark Perney, Kevin Witte, and Chuck Webb**. Many of these same folks stayed all day to help where ever they could. If I did not mention your name as a volunteer, it does not mean that I and CSMS did not appreciate your help. We had the volunteers, and that made all the difference in the Rock Fair being successful. A **BIG THANKS** to all who helped!

While I'm on the subject of volunteers, we still need volunteers to serve on the Lapidary Group Committee and someone to serve as the Public Relations Chair. Please contact me if you are interested.

Now that the Rock Fair is a part of our history, it is time to think about the Annual Pikes Peak Gem & Mineral Show in December. I'm currently serving as the Chair but would love to have a Co-Chair - especially at show time. We will have our first Annual Show meeting at 6:30 PM on July 15th. All club members are welcome to participate.

I hope that you have been taking advantage of our field trips. They are a great way to make new friends, add to your collection, and get a little exercise. I'm still working on a few more to add to the list, so keep checking the website.

The Annual CSMS Picnic is coming up on August 22nd at WMMI. The theme this year is "Food of the Pacific Ring" or as Geologists like to say - "the Ring of Fire". This includes the food of New Zealand, Chili, Mexico, Viet Nam, Korea, Russia, the western USA, etc. The festivities will start at 11:00 AM and cleanup will be at 3:30 PM. Just bring your favorite (theme) dish, some rocks to trade, and maybe a comfortable chair.

Have a great summer, and take care out there.

Yam

UPCOMING SHOWS

Jul 3-5

Farmington, NM San Juan Gem & Mineral Show, Mickie Calvert, mickie2@earthlink.net

Jul 30-Aug 2

AFMS Show & Convention, Billing, MT, www.amfed.org

Jul 31-Aug 2

Prescott, AZ Gem & Mineral Club Show & Sale, Pam Jackson, lpjack65@gmail.com

Aug 14-16

Lake George Rock & Gem Show, US Hwy 24, Lake George, CO 8a-5p, FREE, John Rakowski 719-478-3861, rakgeologist@yahoo.com

Aug 29-Sep 7

Agate Rendezvous, Apache Creek, NM, Yonis Lone Eagle rockymountainrockhounds@yahoo.com

Sep 18-20

Denver Gem & Fossil Show, www.mzexpo.com

Oct 2-4

RMFMS Show & Convention, Roswell, NM, www.rmfm.org

Oct 10-11

Sierra Vista, AZ Huachuca Gem, Mineral & Jewelry Show, Ingrid, 520-459-3718

Dec 5-6

46th Annual Pikes Peak Gem & Mineral Show, Phil Long Expo, Colorado Springs, CO; Rick Copeland, 719-332-7915, rick@rockymountainwonders.com

Upcoming Events

Jul 13

Kemmerer, WY field trip, \$60/pp. White Mnt Gem & Mineral Club; Eunice McQuiston, 928-536-7209

CSMS FIELD TRIPS

Jul 11

Peridot Claim Restaking, ron.yamiolkoski@aecom.com

Jul 18

Gold Camp Road, Ray Berry, rayber@q.com

Aug 22

Mt. Antero, Amanda Adkins, amandaalece@msn.com

Sep 12

Peridot Claim, ron.yamiolkoski@aecom.com

Sep 26

Topaz Claim, ron.yamiolkoski@aecom.com

AFMS NEWS

NO NEWSLETTER IS PUBLISHED IN JULY.



RMFMS NEWS

NO NEWSLETTER IS PUBLISHED IN JUNE OR JULY.



ROCK FAIR ROCKED!

BY BOB GERMANO, CSMS

Despite less than optimum weather conditions, the CSMS First Annual Rock Fair at WMMI went very well. The day started at 6:30a with marking out and numbering the vendors area and setting up all the necessary tables and chairs for displays and demonstrations. We had 18 vendors who started arriving at 7:00 AM and promptly began to setup their booths, displays, and services. The Rock Fair gate opened to the public at 9:00a. There were a few sprinkles through out the day but didn't dampen spirits. Everyone seemed to enjoy themselves, and several CSMS members over heard visitors commenting how great it was to get free rocks and pieces of petrified wood.

There was something for everyone. The "kids" area, run by Roger Pittman was, as always, a big hit, April Cain did an amazing job with her Face Painting booth, and the food was good. Presentations by Society members were well attended; the case displays were wonderfully presented. Thanks to the planning and execution expertise of Ron Yamiolkoski and Drew Malin, along with the volunteers who rolled up their sleeves, the First Annual Rock Fair at WMMI was a successful event. The Board has already begun planning next year's event!

See photos by Frank Rosenberg on pgs 8-9.

AUGUST EVENT—ANNUAL PICNIC

Join us in the celebration of a CSMS summer at the Annual Picnic, August 22 at WMMI. Setup will be at 11:00a with lunch at noon. Bring your favorite dish to share, a comfortable chair, and items to swap or sell. Space is on a first-come basis.

This is always a good time to get to know the new members who attend and spend some social time with others.

Contact VP Mike Nelson, 522-1608, to volunteer or questions.

TIPS & TIDBITS . . .

Cleaning Petrified Wood—To remove clay and ferrous oxide from the surface use Mr. Clean. Do not use oxalic acid as it darkens the specimen (from *T-Town Rockhound*, 3/9).

Large Slabs—A good way to tell how solid a slab might be is to heat it in hot water. The surface will dry immediately. If there are holes or fractures in the slab, every one will soon be lined with water. Mark the lines with a pencil to orient the slab for your project (from *T-Town Rockhound*, 3/9).

Red Opal—If the opal you are grinding turns red, you're probably grinding your finger tips (from *The Rockhouser*, 7-8/09).

Grindstone—Never test to see if a grindstone is turning with your nose—it's only a expression (from *The Rockhouser*, 7-8/09).

Seeing Spots—"Doctor!" whined a rockhound, "When I look at minerals under the microscope I keep seeing spots before my eyes." The primary care physician scratched his head, "Why have you come to me? Have you seen an ophthalmologist?" "No," replied the rockhound, "just spots." (from *The Rockhouser*, 7-8/09).

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
JULY & AUGUST 2009 — CSMS CALENDAR			7/1	2 7p Board Meeting	3	4 Independence Day 
5	6	7	8	9	10 7:30p Crystal Group	11 Peridot Field Trip
12	13	14 7p Micromount Group	15	16 6:30p Pebble Pups 6:30p Show Mtg 7:30p Gen Assembly	17	18 Gold Camp Rd Field Trip 12n—Jewelry Group
19	20	21	22	23 7p Faceting Group	24	25 Ackley's Sale
26	27 Ackley's Sale	28 Ackley's Sale 7:30p Camera Group	29 Ackley's Sale	30 Ackley's Sale National AFMS Convention & Show—Billings, MT	31 Ackley's Sale	8/1 Ackley's Sale
2 AFMS Show	3	4	5	6 7p Board Meeting	7	8
9	10	11 7p Micromount Group	12	13	14	15 12n—Jewelry Group
16	17	18	19	20	21	22 Annual Picnic Mt Antero Field Trip
23	24	25 7:30p Camera Group	26	27 7p Faceting Group	28	29

REFRESHMENTS FOR GENERAL ASSEMBLY MEETINGS

Jul—Jewelry August—Picnic Sep—Lapidary
Oct—Micromounts Nov—Board December—All

Pick&Pack will not be published in August

I get a little vacation after publishing 17 consecutive editions!

Area Code 719

ELECTED EXECUTIVE COMMITTEE MEMBERS

PRESIDENT	Ron Yamiolkoski	488-5526	Ron.Yamiolkoski@aecom.com
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MEMBERSHIP SECRETARY	Bill Cain	634-8205	billcain4@comcast.net
MEMBER-AT-LARGE	Laura Canini	260-6007	caninid@comcast.net
MEMBER-AT-LARGE	Charles Webb	392-7214	(none)
PAST PRESIDENT	Rick Copeland	332-7915	rick@rockymountainwonders.com

APPOINTED COMMITTEES

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LIBRARIANS	Frank & Ellie Rosenberg	594-0948	emr80918@yahoo.com
PUBLICITY CHAIR	(Vacant)		
ROCK FAIR CHAIR	Ron Yamiolkoski	488-5526	Ron.Yamiolkoski@aecom.com
SHOW CHAIR	(Vacant)		
WEBMASTER	Allen Tyson	268-0775	allentyson@yahoo.com

VOLUNTEER SATELLITE GROUPS

CAMERA GROUP	Roger Pittman	683-2603	rpittman@directv.com
CRYSTAL STUDY	Kerry Burroughs	634-4576	kburrou@comcast.net
FACETING GROUP	Dave Wilson	635-7891	dwilson@pcisys.net
FOSSIL GROUP	Mike Nelson	522-1608	csrockguy@yahoo.com
JEWELRY GROUP	Bill Arnson	749-2328	ritaarnson@msn.com
JUNIORS & PEBBLE PUPS	Steven Veatch	748-5010	Steven.Veatch@gmail.com
MICROMOUNT GROUP	Phil McCollum		acc@frii.com

Locations

Board Meeting: 1st Thursday @ 7:00p. Senior Center, Mike Nelson: 522-1608

Camera Club: 4th Tuesday @ 7:30p, Senior Center, Roger Pittman: 683-2603

Crystal Study Group: 2nd Friday @ 7:30p, Senior Center; Kerry Burroughs: 634-4576

Faceting Group: 4th Thursday @ 7:00p, Senior Center, Dave Wilson, 635-7891

Fossil Study Group: 3rd Tuesday @ 7:00p every other month, Senior Center, Mike Nelson, 522-1608

Jewelry Group: 3rd Saturday @ 12n, 15610 Alta Plaza Circle, Peyton, Bill Arnson, 749-2328

Juniors & Pebble Pups: 3rd Thursday @ 5:15p & 6:30p, Senior Center, Steven Veatch, 748-5010

Micromounts Group: 2nd Tuesday @ 7:00p, 1514 North Hancock, Phil McCollum, acc@frii.com, Moyra Lyne, 442-2673

ROCK FAIR AT WMMI HI-LITES





JUNE 18TH GENERAL ASSEMBLY MINUTES

BY BOB GERMANO, CSMS SECRETARY

Ron "Yam" Yamiolkoski called the meeting to order at 7:30 PM. Due to a Senior Center Big Band Musical Event taking place in our normal meeting room, we did not have a flag in the alternate room and had to cancel our salute.

Yam informed the general membership "Anatomy of the Grand Canyon, Panoramas of the Canyon's Geology" was selected by the Penrose library in memory of Dr. John Sampson.

Charles Webb made a motion to approve the May 21, 2009 Minutes as they appeared in Pick&Pack. The motions was seconded and approved by all. He continued with the Treasurer's Report indicating that CSMS is running nicely in the green to include a modest bump up from the June Rock Fair (from sales of vendor spaces).

New members Dan Rubin and daughter Serena were recognized as was a guest, Jennifer Beisel, who later completed a membership application. Welcome to CSMS.

Yam introduced our chairs, noting the loss of our Lapidary Group Chair, Drew Malian. We are looking for a volunteer to take over this responsibility. The real downside to this situation is that the Lapidary Group meetings will not be held until we find a new chair. He informed us that he is looking for volunteers to serve on a committee to determine how we should proceed with the Lapidary Group. To date, he also has not heard from anyone willing to volunteer as Chair of the Lapidary Group, so the Board would like to have a committee of fellow members assist them in resolving this important issue. Volunteers should let me know of their interest.

Yam announced the 2009 CSMS Scholarship was awarded to Michael Mitchell.

Yam informed the membership that the following CSMS members have been appointed to serve on the CSMS Website Improvement Committee: Allen Tyson, Brian Paterson, Betty Cain, Ellie Rosenberg, and Mike Nelson. If any members have any thoughts concerning our website and how it can be improved, please share them with the committee.

As acting Annual Show Chair, Yam reported the first organizational meeting would be July 15th at 6:30 PM in the Senior Center Lobby. Betty reminded the membership of the CSMS publication, Show Committee Performance Booklet, that breaks down each show chairperson position and its associated duties. This is an easy reading publication and will dispel any reservation one may have about volunteering to be a show chairperson. The show is scheduled for December 5th & 6th at the Phil Long Center.

Yam provided the latest in field trip happenings. The Topaz field trip will be rescheduled due to date conflicts, more information to follow. An additional trip to the Holcim Cement Quarry is in the works for November 2009 and a Gold Panning trip to Beaver Creek. An up-to-date field trip list is posted on our website www.csms.us.

We are still in need of a Publicity Chair; a volunteer would be greatly appreciated

President's Report (Yam):

- I would like the various Group Chairs to provide an occasional article for Pick&Pack that describe their ac-

tivities. This would help Pick&Pack be considered more complete and will help our new members determine their interest in the various groups.

- Saturday, August 22nd 11:00 AM -3:30 PM is our Annual Picnic at WMMI. This year's theme is food of the Pacific. This covers Asian, Mexican, the Pacific Isles, etc. We'll also be doing our annual swap tables. Please let VP Mike Nelson know if you need a swap table. Beverages, napkins, plates, and utensils will be provided by CSMS. Please do your part in the cleanup effort at the end of the festivities. Thanks.

Bill Cain, Membership Secretary, reported we currently have 225 members.

Betty Cain, Editor, announced that CSMS has 3 contest article winners in the Top Ten at AFMS: Steve Veatch, Mike Nelson, and Bill Cain. They are automatically entered in the RMFMS competition.

Betty also reminded the membership that Art and Helena Ackley announced that David and Cathy Key, with their daughter Molly, have finalized the purchase of Ackley's Rocks and will become the new owners on August 1, 2009. Art will stay on for an indefinite time running the Ackley's Stamps part of the business separately. "Both of us will be coming in often, on a consulting basis, and Rhonda will still be there, too. The store will not be closed, and business will go on as usual. We will change ownership with a Transition Sale, also celebrating our 45th year in business as of Sunday, July 26. The sale will be as usual, with everything discounted, from 10% up to 50%. This Transition Sale will be from Saturday, July 25, (closed on Sunday) then Monday July 27 through Friday, July 31."

Introduction of Speaker: Our Former President, Rick Copeland, gave a talk entitled "From Rocks to Jewelry: How to take a rough piece of stone and make it into an attractive piece of finished jewelry." Rick started with a condensed history of jewelry down through the ages and rolled right into a "how to do it" slide presentation. Even though the presentation was very detailed, each step was easy to grasp, and Rick made the process seem painless, from lapidary to metalworking, so much so that several of us commented, "I can do that". Rick did a great job; his time and efforts are appreciated. Thanks, Rick.

Final reminders:

Check the CSMS website periodically for updates on field trips. I'm still looking for more trips to be added.

If you have not paid your dues, please get them to Bill Cain as soon as possible. Some of our older members have missed paying their dues.

The Jewelry Group will provide refreshments for the July General Assembly Meeting.

Don't forget that the first Annual Show Planning meeting will be at 6:30 PM on July 16th, before our next General Assembly Meeting.

Don't forget our picnic on August 22nd.

Meeting adjourned at 8:59.



Our Staff...

Betty Cain *Editor*
 Bill Cain *Mailer*
 CSMS Members *Reporters*

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

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

The ability to write well is NOT a requirement. We will fix the grammar while keeping the author's voice, style, and work intact.

Handwrite it, type it, or email it. Format does not matter. All submissions are welcomed.

DEADLINE for items to be included is the Saturday after the General Assembly every month.

To submit an item, please use the following:

For hardcopy photos or articles, mail to the address below or bring them to the General Assembly 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 JPG, BMP, TIF, or PIC format.

All articles not shown with an author are provided by the Editor.

Mail or email to:
 bettycain3@comcast.net or
 Info@csms.us
 PO Box 2
 Colorado Springs, CO 80901
 Phone: (719) 634-8205

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CLASSIFIEDS . . .

NOTICE—Items listed for sale in the Pick&Pack are displayed only as an informational service to our members and advertisers. CSMS and/or the Pick&Pack do not promote nor warranty any item displayed. The sellers and buyers are responsible for the condition and ownership of any item shown.

CSMS VESTS

Contact Linda Laverty to order a CSMS Vest; \$25 ea.
 520-5939

Our seamstress is back in action!

CSMS T-SHIRTS

Ann Proctor has our shirts for sale
 684-9010

LOST & FOUND

Sedalia Copper Mine Field Trip, call Marj Regel to ID the item
 599-3031.

CSMS Membership Pins

2008 New Members who have paid their 2009 dues are entitled to a one-year pin, as are other members renewing on 5-yr increments. Please see Bill Cain, Membership Secretary, to receive your award.

All back-year pins may be purchased for \$5 ea.

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Joining the Colorado Springs Mineralogical Society (CSMS)

General Assembly meetings are held the third (3rd) Thursday of each month, except January & August, beginning at 7:30 p.m. at the Colorado Springs Senior Center, 1514 North Hancock Blvd., 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: Camera Club, Crystal Study Group, Faceting Group, Fossil Group, Jewelry Group, Lapidary Group, Micromounts Group, and Pebble Pups/Juniors. For details on Satellite Group meetings, see page 7.

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. **New Members are half-price June 1—September 30.**

Individuals—\$20

Family—\$30

Juniors—\$5

If you are interested in joining CSMS or would like more information, we encourage you to attend our next General Assembly meeting (see page 2 for details of the next meeting) or visit our web site: www.csms.us.