PICK&PACK
THE BULLETIN OF THE COLORADO SPRINGS MINERALOGICAL SOCIETY Published Since 1960

Dryopteris:
A Fossil Fern from Florissant

Steven Wade Veatch, CSMS

Ferns are among the fossil plants found in the Florissant Fossil Beds of Colorado. Fossil plants like these ferns are records of prehistoric life—providing information about when an organism lived, where it lived, and how it lived. Fossils are vital in helping paleontologists reconstruct ancient environments and establishing the geologic history of the Earth.

The origins of ferns are not well understood (Kendrick and Davis, 2004), but continued study of fossil ferns may reveal more about their beginnings. The earliest recognizable ferns come from the Carboniferous (359-299 million years ago).

Ferns have large complex fronds (leaves) and are spore bearers. Some ferns are non-woody, but other ferns are woody and are called tree ferns. Ferns were common late Paleozoic plants and widespread in the Mesozoic. Today ferns are the most common and diverse spore-bearing land plants with over 10,000 species (Lane, 1992). They generally live in moist, shady areas of the forest understory.

Fig. 1. *Dryopteris guyotti* was abundant in past geologic ages. Broad, flat leaves helped the fern catch more sunlight. Florissant Fossil Beds National Monument specimen number 3135a. Photo by R. Wood.

Dryopteris, from the Greek, *drus* (oak) and *pteris* (fern) occurs in Florissant's Eocene fossil flora as well as other Tertiary floras. Its common name—wood fern—is from the preferred woodland habitat of most *Dryopteris* species. Other common names include shield fern, Goldie's fern, male fern, and buckler ferns

Today *Dryopteris* is a genus of about 250 species of ferns growing in the temperate Northern Hemisphere and in eastern Asia. Fronds are bipinnate (branching of leaflets at right angles to the central axis). The leaflets, or pinnules, are lobed. Fertile pinnules have round sori, which are fruit dots or reproductive bodies (Tidwell, 1998). Many of the species have solid rootstocks forming a crown with a ring of fronds.

Of all the fossil ferns at Florissant, *Dryopteris guyottii* is the only species of fern described from a frond. Other ferns are known only from fossil spores (Meyer, 2003). It appears that *Dryopteris guyotti* grew in the understory of the Eocene forest at Florissant (preferring damp and shaded environments like its modern relatives) or near ancient Lake Florissant. *(Next page)*

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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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Articles in this Issue:

Table 1. Taxonomy	
King-dom	Plantae – Plants
Division	Pteridophyta – Ferns
Class	Filicales
Order	Aspleniaceae
Family	Dryopteridaceae – Wood Fern family
Genus	*Dryopteris*
Species	*Dryopteris guyotti* (Lesquereux)

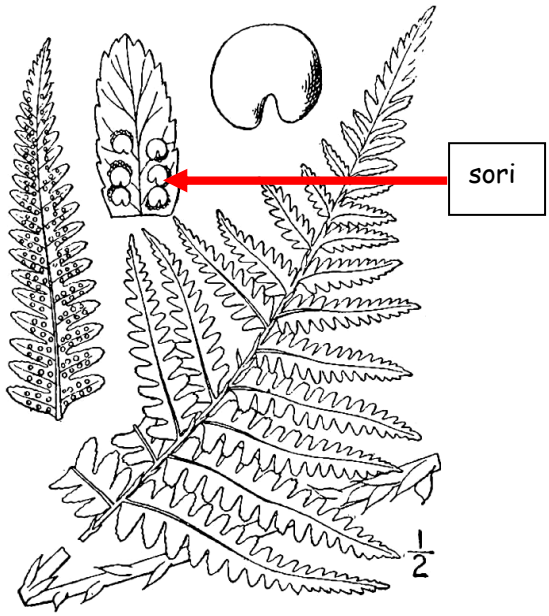

Fig. 2. Line drawing of *Dryopteris filix*. USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. An illustrated flora of the northern United States, Canada and the British Possessions. Vol. 1: 21.

References Cited:

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The Holcim Cement Quarry Field Trip

by Bob Germano with photos by Frank Rosenberg

The 2009 Holcim Cement Quarry field trip was a unique experience for both first timers and returning collectors. For those unfamiliar with this field trip, the cement quarry is near Penrose, Co. It's a great outing, and you do not come away disappointed. There are three different specimen types to collect, marine fossils, pyrite balls, and calcite. A great feature of this field trip, you are almost assured to come home with several nice finds.

Our field trip day started with less than desirable weather conditions but, Colorado's spring time weather being what it is, we just needed to wait a short time and the weather changed for the better. Thirty members signed up for the trip, but only 28 made it to the quarry.

While waiting for the Quarry Manager, Joe LaManna, to lead our group into the quarry, Roger Pittman provided us with a very interesting and informative talk describing the method of manufacturing cement. Roger is very familiar with the area, and he noted many of the old cement quarry buildings have long been destroyed or replaced and thought it would be great to tour the existing plant before it too disappears.

Kevin Witte unearthed this great marine fossil specimen.

About the time Roger finished his talk, the Quarry Manager arrived and briefed us on the collecting adventures awaiting us and reviewed the necessary plant safety rules in place to keep us safe. We started our collecting efforts in the marine fossil area where several great specimens of shells were found.

While fossil collecting, we were invited to inspect one of the quarry's "4 wheel drive vehicles"; it will get you where you need to go with authority!

In the bucket - (L-R) Roger Pittman, IIona Vogt, and Ron "Yam" Yamiolkoski.

We then proceeded to the pyrite area. After approximately an hour, everyone had found at least several of the elusive golden balls ranging from ¾" down to about ⅛" in diameter. Most everyone had a smile on their face.

Our next stop was the calcite area. Joe had briefed us that the calcite was not as good as last year, the area still made a big impression. Several 80-pound-plus pieces were quickly collected.

After an hour of lifting and toting calcite, it was easy to see most of the vehicles' springs were being put to the test under the weight of the calcite blocks. That concluded the collecting portion of the field trip, and everyone personally thanked Joe for the opportunity to visit and collect at the Holcim Cement Quarry.

John Joseph Sampson

Dr. John J. Sampson was born on January 19, 1919 to Syvert Warness and Margaret (Flatebo) Sampson on a farm in Akron, CO. He was promoted to his Heavenly Home on April 23, 2009 at the age of 90 years and 3 months. He graduated from high school in 1936 and attended the College of Engineering from 1936 to 1937 at Colorado University in Boulder, CO. He was 20 years old upon graduation from the College of Optometry in 1939. In 1941, Dr. Sampson received his certificate in aniseikonia from Dartmouth Eye Institute. He started the Aniseikonia Clinic at Gockner Hospital, currently known as Penrose St. Francis. Dr. Sampson practiced there until he joined the U.S. Army in March of 1944. He served in the 237th General Hospital where he headed the eye department. He received the Bronze Star during the Battle of the Bulge and was discharged in November of 1945. Dr. Sampson started at Creighton Medical School in 1946, graduating in 1950. He interned at Creighton St. Joseph Hospital in Omaha, Nebraska from 1950 to 1951. He did his Ophthalmology Residency from 1951 to 1954 at Washington University in St. Louis, Missouri. He was certified by the American Board of Ophthalmology in 1955. Dr. Sampson was elected as a fellow in the American Academy of Ophthalmology and Otolaryngology as well as in the American Association of Ophthalmology. He was President of the Colorado Association of Ophthalmology and Washington University Alumni Association. Dr. Sampson practiced ophthalmology in Colorado Springs from 1954 to 1987 and served on staff at Penrose, Memorial, and St. Francis Hospitals. Throughout his practice he was a member of the Colorado Ophthalmology Society, Colorado Medical Legal Committee, El Paso County and Colorado State Medical Societies, as well as the AMA. He was a long-time member of First Evangelical Free Church of Colorado Springs and during the winters of his retirement, an associate member of Grace Evangelical Free Church in Mesa, Arizona. He was also a member of several local organizations, including Sons of Norway and a Lifetime member of The Colorado Springs Mineralogical Society. CSMS will place a book honoring Dr. Sampson in the Penrose Library.

Reaping Rewards

Editor

Are you receiving your money's worth? Do you

- ☑ Go on field trips,
- ☑ Belong to a satellite group,
- ☑ Regularly attend the General Assembly meetings and events,
- ☑ Submit articles for the newsletter,
- ☑ Bring refreshments to the meetings even when it's not your turn,
- ☑ Help set-up or break-down the room,
- ☑ Greet visitors with a welcoming smile and introduce yourself,
- ☑ Encourage new rockhounds by sharing your knowledge and experience,
- ☑ Serve as an officer or committee person,
- ☑ Lead a field trip,
- ☑ Volunteer to help at an event,
- ☑ Recruit new members,
- ☑ Participate in the scholarship fund,
- ☑ Represent CSMS on a RMFMS or AFMS committee,
- ☑ Exhibit and/or attend the shows (local, regional, or national)?

If you can't honestly answer yes to all of the above questions, you are not reaping the full rewards of your CSMS membership! There are so many opportunities and ways for you to receive a healthy return on your membership investment. It's amazing how much you'll enjoy the participation, whether it's a little or a lot. You don't have to be an expert; no task is too small or job too big if your heart is in it. We are all volunteers who happen to share the same interests in rockhounding—no one can do it alone (or wants to!!).

Find your own special way to get involved with CSMS, and watch your membership prosper. I guarantee you will receive a big dividend, and your smile-o-meter will go way up.

CSMS

CSMS Rock Fair @ WMMI

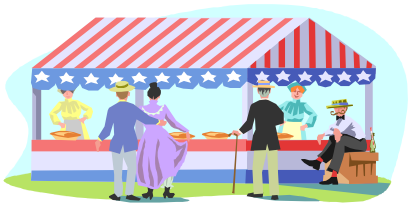
Saturday, June 20, 2009, 9:00a—3:00p

Join the Fun and Activities!

Lots of fun for the family and a great way to celebrate the Saturday before Father's Day.

The Colorado Springs Mineralogical Society has partnered with WMMI for this exciting summer event. We will have gems, jewelry, minerals, and fossils vendors; educational mini-sessions on the rockhounding hobby; demonstrations; rock identification; special kids' fun area; face painting; food vendors; exhibits of the museum; and equipment operation. WMMI has chosen this Saturday, from 10a & 1p, as the once-a-year operation of the Yellow Jacket Stamp Mill! Come see this awesome machine in action.

WMMI
225 North Gate Blvd. *(opposite USAF Academy north entrance)*
Colorado Springs
I-25 & Exit 156A (Gleneagle Drive)



1st Annual CSMS Rock Fair at the Western Museum of Mining & Industry

http://www.wmmi.org/calendar/calendar.htm#june

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ASK A GEOLOGIST

BY MIKE NELSON, CSMS

David wrote: *Can you tell me about sandstone and quartzite? Sometimes I cannot tell the difference.*

Good question David, and as is often the case in this column, the answer entails a somewhat lengthy explanation.

In the world of geological terminology, sand refers to unconsolidated sediments with particle sizes ranging from 1/16 mm (sugar grain size) to 2 mm (BB size). Sand particles are visible to the naked eye with silt being smaller (cannot observe grains without magnification; grits in your teeth with tasting) and clay the smallest particles. Pebbles, or gravel, are larger than sand grains. Sand is composed of rock and mineral fragments derived from previously existing rocks, and then deposited by forces such as wind, streams, gravity, waves, tides and currents. Here in Colorado, we are most familiar with sand composed of either quartz or feldspar fragments. However, in visiting Florida one would find sand with high percentages of fossil fragments or limestone. On the island of Hawaii is Papakolea Beach, a "green sand" beach where the sand particles are pieces of olivine eroded from nearby volcanic basalt. In the April 2009 Pick & Pack I wrote about White Sands National Monument in New Mexico where the sands are particles of white gypsum.

Sandstone then refers to consolidated (hardened) sand, with siltstone (massive), shale (fissile) and claystone being the consolidated rocks of clay and silt. Conglomerate (rounded particles) and breccia (angular particles) are rocks with pebble and larger size components. The consolidation of particles takes place by either compaction or cementation with the latter common in sandstone and conglomerate. The cement precipitates in the pore spaces between the sand grains and commonly is either calcium carbonate ($CaCo_3$), silica (SiO_2), or iron oxide (Fe_2O_3). The nature of the cement also plays a role in the color of the sandstone. For example, a small percentage of iron oxide in the cement will impart a bright red or orange color to the sandstone (see April 09 Pick & Pack); however, in many cases not all pore spaces are completely filled with cement and a buried sandstone may serve as a water aquifer or be saturated with petroleum.

Field geologists often use adjectives or qualifiers to describe different sandstones such as feldspathic sandstone (or arkose) for sandstones with a high percentage of the mineral "feldspar", quartz arenites (arenite = sandstone) with a high percentage of quartz, etc. After returning to the laboratory the geologist might make "thin sections" so that individual grains may be counted under a petrographic microscope. Samples may then be plotted on a **Q**(quartz), **F**(feldspar), **L** (lithic=rock) diagram (Fig. 1) for a more precise identification. This thin section work, and subsequent plotting, then informs the geologist about such things as textural maturity and composition, which in turn is used to help interpret the depositional environment of the original sand. For example, sandstone plotting in the far left margin, lower quadrant of the triangle (arkose) (Fig. 1) would indicate erosion of a feldspar-rich source rock without a long distance of transport. Locally, many of the sandstones in the Fountain Formation, think Garden of the Gods and Red Rock Canyon Open Space, are feldspathic sandstones derived from the nearby feldspar-rich Pikes Peak Granite. The angularity of the individual particles indicates a short distance of transport. Graywake (informally called dirty sandstone) is a particular type of lithic (rock fragment) sandstone composed of angular rock fragments and a clay matrix (clay particles between the rock grains and cement) plotting toward the lower right corner of the triangle. This is significant since one would not normally expect clay particles (fine) and rock/mineral fragments (sand) to be deposited together. However, modern oceanic studies have shown that submarine avalanches and turbidity currents are able to churn up the sediments on the edges of the Continental Shelf (sloping down to the trenches) and deposit these mixed size particles. This understanding then allows geologists to more accurately place continents in constructing paleogeographic maps (maps detailing positions of continents and oceans in the geologic past) (Fig. 2). The graywackes that I am familiar with include the great Franciscan Group of the Coast Ranges in California, several in the Precambrian of the Canadian Shield (around the U. S. Great Lakes), and rocks comprising the core mountains of New Zealand. There are smaller exposures of graywacke in some of the Precambrian rocks of Colorado; however, they are not common. A reasonable explanation might be that what we now know as Colorado has been part of the more stable continental interior (termed the craton) since the end of the Precambrian (last ~550 m.y.). The migration of marine waters on and off the craton was in a shallow water environment without a continental slope, continental shelf or deep oceanic basin (see Fig. 2 for Late Cretaceous extent of marine waters).

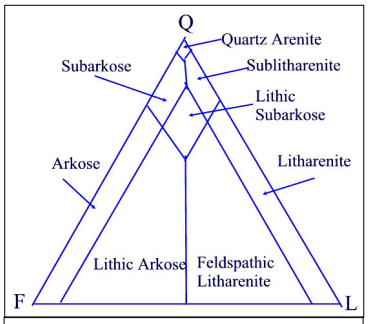

Fig. 1. A QFL Composition Diagram used to plot minerals and identify sandstones.

Fig. 2. Paleogeographic map of the North America Late Cretaceous showing tectonic activity (mountain building) to the west, the stable craton covering the eastern 75% of the continent, and the Western Interior Seaway as a long arm of northern oceans. Courtesy of Ron Blakey at Northern Arizona University.

The sandstones plotting out in the extreme upper part of the triangle are termed quartz arenites since quartz is the dominant (over 90 %) mineral (Fig. 1). Some of these sandstones are quite monomineralic with nearly 100% quartz. Perhaps the most famous of these quartz arenites is the St. Peter Sandstone (Ordovician age) of the Midwest and Central Plains (also known as the Simpson Sandstone in Oklahoma and informally as the Ottawa sand). The pureness of this sand (~99.5% quartz) has spawned a large glass making industry. In Colorado, a similar formation is

termed the Harding Sandstone from a locality near Canyon City. The Harding perhaps is best known for producing some of the oldest vertebrate fossils in the world (as well as building stone for the local houses of incarceration). Locally some of the sandstones found in the Lyons Sandstone (at Garden of the Gods) are quite pure quartz arenites. In reality, most of the sandstones found in Colorado (other than the arkosic Fountain Formation and its correlatives) plot somewhere in the upper 1/3 of the triangle—the mineral constituents are mostly quartz but other mineral/rock fragments are present.

Fig. 3. Resistant sandstone (Elephant Toe Butte) at Dinosaur National Monument. Photo by author.

The reason behind this fact is: 1) quartz is one of the most abundant minerals in metamorphic and igneous rocks, often the source for sandstones; 2) a high hardness [7] and a lack of cleavage make the mineral quite durable; and 3) quartz is chemically stable and has a very low solubility in water. Sandstones are fairly resistant to erosion and therefore often form hogbacks, fins, buttes, cliffs, flatirons and "caprock" (Fig.3).

Now on to the quartzites, and I do mean plural as this term is used, perhaps to confuse people, as describing both sedimentary rocks and metamorphic rocks! Some of the quartz arenites, those rocks composed essentially of quartz grains, become so tightly

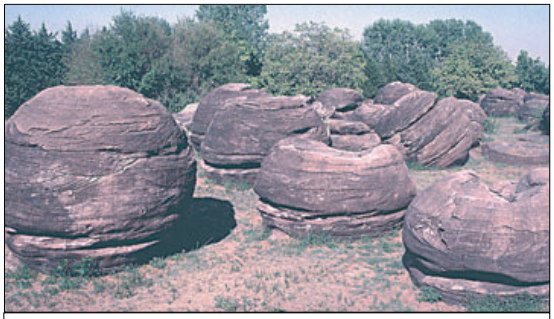

Fig. 4. Concretions weathering from the Dakota Formation at Rock City in central Kansas (a few miles from the author's home town). The rock is an orthoquartzite with an excess of 95% quartz grains; however, the cement is calcite (rather than silica). From McBride and Milliken, 2006.

cemented that the rock takes on a glassy appearance and is quite hard. In Colorado, some sandstones of the Cambrian Sawatch Formation are called quartzite as the quartz grains are tightly cemented by silica. In fact, one can find references in the geological literature to the Sawatch Quartzite (as opposed to Formation) as the name of the rock unit. In central Kansas a resistant and hard unit of the Dakota Formation is cemented by calcite (Fig. 4). Geologists term these sedimentary quartzites as orthoquartzites.

Fig. 5. A comparison of metaquartzite (above) to quartz arenite(below). Note that individual sand grains are readily visible on the surface of the sandstone, but not on the quartzite. Photo courtesy of Bruce Perry at California State University Long Beach.

Metaquartzites are the true quartzites and are metamorphic rocks, formed when quartz arenites are subjected to high heat and high pressure in areas of regional metamorphism (Fig. 5). This metamorphism generally takes place along plate margins where some sort of plate collision or subduction is occurring. In Colorado these metaquartzites are almost always Precambrian in age (Fig. 6).

So, confusion may abound, and sometimes identification of a hard rock, with a glassy texture, and "sugary grains, is difficult! However, the following hints will make life easier. If you suspect the cement is either calcite or silica (clear), a drop of hydrochloric acid will determine composition. You should also examine any reaction with a hand lens to make certain the cement is "fizzing" rather than some included calcite grains. If calcite cement is present then the rock is a quartz arenite or orthoquartzite as any calcite cement in the original rock would have been destroyed with later metamorphism. Examine a fresh surface of the rock with a hand lens and observe the individual grains. In a sedimentary quartzite one can observe: 1) the cement; 2) the rounded grains of quartz (usually not fractured and simply touching each other); and 3) the fact that the rock breaks between the grains. In a metamorphic quartzite; 1) the grains are commonly fractured, "squashed and squeezed", and recrystalized during metamorphism; 2) the cement is recrystalized and "blends in" with grains to give the rock a quite glassy appearance; and 3) the rock breaks through the grains.

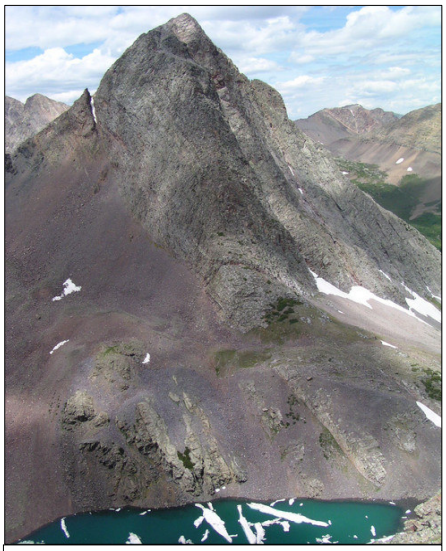

Fig. 6. Storm King Peak (13752 feet) in the Grenadier Range of the San Juan Mountains. The massive and resistant outcrops are metaquartzites approximately two billion years old. Photo courtesy of summitpost.org.

David, this was a long answer to a seemly simple question. However, universities teach entire courses on the identification and classification of sandstones. I read somewhere that several hundred classification schemes have been proposed for sandstone—that appears to be overkill! However, it is important for a geologist to distinguish between the different quartzites and sandstones.

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It's not a collection until it's organized!

by Ray Hill, Great South Gems & Minerals, Inc.

I have had the privilege of going out rock hunting with many folks in recent years. Some of the people that went with me are knowledgeable and have been at it for a long time and a few are just beginners. I personally have been going on collecting trips for about twenty years now. I can think of no other hobby I'd rather be involved in. Rock collecting has brought me many hours of enjoyment and has put me in contact with some really great people over the years.

I think one thing about this hobby that all of us enjoy is being able to share, or show off our collections to others. I know I do. It brings me great pleasure when someone comes into my office and comments on all the pretty rocks on display. After all, being able to brag a little about what you have done is icing on the cake, so to speak. It certainly makes the effort worthwhile.

And, one thing that amazes me is the fact that there are many "collectors" that like going on the field trips and getting buckets of rocks, then bring them home and do nothing with them. The material ends up sitting in boxes or buckets in the basement or garage for ever and ever. They have not taken the time to get the material they have found organized in any manner. I've been to another rock collector's house and when I asked to see their collection they would take me out to the back yard and show me the rocks lying around the flower beds or maybe show me buckets of material, with spider webs and dust covering the tops, out in the garage. I think to myself, "This isn't much of a collection!" It is just a bunch of rocks. There's no organization to it.

Now, I know that rockhounds are a varied bunch. They have different backgrounds, educations, experiences, incomes, etc. I understand. One person may be into tumbling or cutting stones for jewelry while another is thrilled about a different facet of the hobby (Pun intended!) like fossils, meteorites, doing inlay work or whatever.

But one thing I don't understand is the collector not having some kind of organization for the material they collect. It may be that some folks are not interested in showing off their finds, or don't know how to organize the material they've collected. It's my humble opinion that you don't have a collection in the true sense of the word unless you have your material organized where you know what you have and where it came from. And, by the way, not having your rocks organized, identified with name and location, greatly reduces its value.

In the past 20 years I have had a number of people contact me and say they have a rock collection that was collected by their father, aunt, uncle, or whatever, and wanted to know if I would look at it and give them an idea as to the worth of the material and to see if maybe I would like to purchase the material. When they brought the material over, I didn't think much of it because of the condition it was in. There would be no labels on any of the material and they would not know where the material came from. "It's just some rocks Dad collected" they would say.

You can take common road gravel, put it in a small box with an attractive description label giving the name of the rock, where it came from, maybe the type rock (Igneous, Sedimentary, Metamorphic), the hardness of the rock, and maybe the date it was found, and low-and-behold, it now has a value. It's no longer just common road gravel! It is now a cataloged specimen in a collection. The rock now has "character"! It is now an identified, marked, labeled specimen, with value.

Recently, one of my rock buddies and I went over to a site within a couple of miles of my home where workers were doing some heavy grading of a large lot that was going to be a Super WalMart. It was late in the evening and none of the workers were around, so we looked through the material they were bringing out of the ground with their heavy equipment. We found large quantities of a metamorphic rock, biotite mica schist. We both loaded up as much of this material as we could tote away that evening. The next day, I got outside on my rock bench with this material and a hammer and chisel. I put together three flats of this material in three different sizes. I put the specimens into the fold-up boxes and typed nice description labels for them. My daughter photographed the material and we put it up on our site. This was last summer. To date, we have sold about three hundred dollars worth of this mica. We were able to do this because we made nice size mineral specimens out of the large chunks, put the pieces into small display boxes, put description cards with each specimen and turned the material into good collectable specimens. Just a pile of rocks by themselves do not make collectable specimens.

I recently wrote an article entitled "So Your Child Likes Rocks". In this article I explained the importance of organizing your rocks. It's not a collection until it is organized!!!

Let me tell you what I do with my rocks, especially those I personally collect. Like many others, I will gather up as much material as I find when I'm on a field trip. Some of the material contains good looking pieces and other pieces are not so good. I think we all do this. When I get back home I take all of the material that I have collected and clean it, usually outside on my rock bench using the water hose. Then I will lay them out on a board to dry. Once the rocks have been cleaned and dried, I look through them to see what I have. At this point I pick out the really good looking specimens that I want to put on display inside in my rock cabinets. I put each one in a white fold-up box, and then place them in one of my collection cabinets. I place the balance of the material on my "Rock Wall". See my article, "Get rid of those buckets" at <www.greatsouth.net>.

I place the cleaned pieces on my rock wall in groups so I will know what an item is and where it is from. Nearly every rockhound that comes here spends time out there walking up and down my rock wall admiring the specimens.

Every specimen I have in my personal collection has been identified with description labels that give the name, location, date

acquired, mineral group, and how I obtained it. If I purchased the specimen, I put the price that I paid for it on the label. Should something happen to me, those that look at my rock collection will have this information without having to "dig" for it. This adds value to any type collection… rocks, pipes, razors, sea shells, fishing lures, etc. It's not a collection until it is organized. What if someone showed you a cigar-box full of mixed type lures….without any information as to what they were, how old they were, where they were from? You wouldn't think much of that box of stuff would you? Well, that's because there is no organization to it.

GET YOUR ROCKS ORGANIZED INTO A COLLECTION. As an absolute minimum you should write down the name of your rock specimens and where they came from.

I use slide-out drawer collection cabinets for my smaller specimens. I put the stones in one of those white fold-up boxes, the right size for that specimen and then place a typed label in the box. I glue the label to the back inside wall of the box, that way it can never get misplaced. When I am showing the specimens, or am studying specimens in my collection I always pick up the fold-up box with the specimen in it so as not to handle the specimen itself. In recent years since my collection has grown I have drawers for a group of specimens. I have two drawers that hold my collection of calcite specimens. It's amazing how many different colors and crystal shapes that calcite takes. I have calcite specimens from all over the world; many different colors and crystal formations. I have two drawers dedicated to my quartz crystal collection, representing many different types and locations: smoky quartz, tabby quartz crystals, rutilated quartz crystals, quartz crystals with water bubbles, skeletal crystals, phantom crystals, etc.

I know what every specimen is, where it came from, when I got it, how much I paid for it if I purchased it, who gave it to me if it was a gift. You can also catalog your collection by assigning a number to each specimen and maintaining a journal with the information for each specimen. This is a lot of work and takes dedication. I don't have the dedication to go that far. But I am convinced that if you are going to be a rock collector, you need to develop a workable system for keeping your specimens identified and basic information about each specimen. It doesn't have to be an elaborate system, just something to keep track of what you have. That's important. If you haven't started keeping some type information on your rocks specimens, I suggest you start now.

To start, get a bunch of the white fold-up boxes to put your specimens in. They come in many different sizes. Place each piece in a separate box to protect it from banging against other specimens. Either write out or type a label that will fit into the box. Glue the label to the inside. You can now place your identified specimens in a display case, a cabinet drawer, or even a shoe box. You can also place your specimens in the fold-up boxes in cardboard drink flats that you can get at any convenience store. They are free. Then you can stack them, one atop another in a safe place.

So, stop making excuses. Get your pretty rocks organized. Make labels for them. Store them in a suitable place. After awhile, you will be able to look at your many treasures, properly identified with basic information and admire with pride, the collection and the work you've done to create it.

President's Corner

BY RON YAMIOLKOSKI, CSMS

Well, I guess I should call this column "Calling All Volunteers". Right now CSMS needs volunteers for a lot of efforts. Let's look at the needs.

The Lapidary Group - For those of you who did not attend the May General Assembly, you missed my announcement that Drew Malin has stepped down as Chair of the Lapidary Group and will no longer be able to host the group at his house. That means that we need a volunteer to host and chair the Lapidary Group. The Lapidary Group has two pieces of equipment that belong to CSMS. It has a Genie and a 10 inch saw. The Chair will be responsible for the equipment. Volunteers can contact me by e-mail to let me know of there interest. In the meantime, we are postponing the Lapidary Group meetings.

Public Relations Chair - Earlier this year the Board established the position of Public Relations Chair. We felt that we needed someone or a group to work throughout the year to tell the story of CSMS and its activities. As you all know, we have an Annual Show, we now have a Rock Fair, and we make a variety of contributions to the community in support of geology and earth science. The problem is the word does not get out on a consistent basis. A Public Relations Chair could give us more and better exposure. We are looking for someone to lead our Public Relations efforts. If you are interested in volunteering contact me by email.

The Annual Show - As all of you know, we have moved our Annual Show to the first weekend in December. It sounds like it is a long way off, but there is much that needs to be done now, so that we will have a success in December. Because of personal reasons, Rick Copeland, who was chairing the Annual Show, has asked that he be allowed to step down. As a result, we need a volunteer (or a couple) to step up and volunteer to be our Annual Show Chair. This is not a small task, and it will take considerable work; but it is an important task for CSMS. If you are interested in volunteering, please contact me by email as soon as possible.

The Rock Fair at WMMI, Saturday, June 20 - Where do I begin? We need all sorts of volunteers for the Fair. From 7:00AM until 9:00 AM, we need people to setup the Fair. This includes setting up tables, placing trash cans, making sure vendors are in the correct locations, making sure all volunteers and vendors have their wrist bands, and a myriad of other chores. During the Fair (9:00AM – 3:00PM), we need volunteers for Security, Trash Collection, the Kid's Area, the Experts table, demonstrations, the Hospitality table, and to take care of vendor issues. After the Show (from 3:00PM until about 5:00PM), will be dismantling, cleanup, and making sure the vendors are out by 5:00. For those who really like to arrive early, at 6:15AM, Bob Germano (he volunteered) and I will be laying out the vendor/Kid's Area/Hospitality/-Demonstration areas. If you are interested in volunteering, please

contact me by email as soon as possible.

One other thing, we have made arrangement with the Museum to use their AV Room as a place to display cases. We have some cases already, but we have room for a few more. Contact me (Yam) if you would like to display a case. All cases are non-competitive. Ann Proctor has agreed to sit outside the room to watch over the cases.

Field Trips - We are off to a great start with our Field Trips this year. We have 17 listed right now and another 3 or 4 in planning. If you have not volunteered to lead a Field Trip in the past or in recent years but know of a fun opportunity, please get in touch with me. If you don't want to be the leader but can help arrange a Field Trip, perhaps I or another CSMS member can be the leader and work with you to make a fun opportunity happen. If you are interested in making a Field Trip happen, please contact me by email as soon as possible.

A lot of you do "unofficial field trips" or outings. Think of how much more fun it would be to take along a fellow club member. I know a lot of our new members would really love to learn from those of you who are more experienced. Take a look at the directory that you recently received and contact one of your fellow members to see if they would like to go out on an unofficial outing. You'll both have more fun and perhaps you'll both learn a little more from each other.

Just a few additional thoughts before I let you read the rest of Pick & Pack:

We have the Annual CSMS Picnic coming up. This year it is scheduled for 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 Australia, Canada, Korea, Russia, the western USA, and even Hawaii, etc. Just think: a plate filled with roast leg of lamb, fried rice, mahi mahi, pineapple, and artichoke dip. Maybe you can make up a better plate. We'll be back to you with details as the date gets closer. Guess what, we will need some volunteers for the picnic as well.

Have a great summer and take care out there,

Yam **ron.yamiolkoski@aecom.com**

June Program

The June 18th General Assembly program will be presented by our own Past President, **Rick Copeland**. "From Rocks to Jewelry: how to take a rock from a rough piece of stone to a finished piece of jewelry".
Rick is the successful owner of Rocky Mountain Wonders and has many secrets of making beautiful jewelry to share with us. His presentations are always informative, enlightening, engaging, and lighthearted—don't miss it.

Fossil Group Report

By Mike Nelson

The May meeting of the CSMS Fossil Club ended formal sessions until next fall. The Show and Tell featured pelecypods (the Bivalvia from the Phylum Mollusca), and the group concentrated on the dynamics and morphology of clams and oysters. Mike Nelson led the study group through the different families of the bivalves and noted the differences between the Bivalvia and the bivalves of the Phylum Brachiopoda (it's all in the shell symmetry). Jack Null brought a good collection of oysters from around the world (although none to eat), Jerry Suchen exhibited some of his clams from the Texas Cretaceous, and Kevin Witte brought two very large specimens of inoceramid clams collected locally from the Pierre Shale and Niobrara Formation. The last half of the meeting was taken up by Mike's PowerPoint presentation of rocks and fossils from the Cretaceous of Kansas. The Fossil Group decided to enter a case(s) in the September Denver Show and settled on a theme of "Fossils From the Pierre Shale". Jack Null and Jimbo Buck will head this effort, and members are encouraged to contact Jimbo or Jack with offers of fossil to loan for the case. At the June CSMS Rock Fair, Jack will present a talk on beginning paleontology, and it promises to be a "really big show". Jack, Jerry, and John Harrington will help identify fossils at the club's ID table. If you would like on our mailing list, contact Mike at csrockguy@yahoo.com.

Upcoming Shows

Jun 20
CSMS Rock Fair at WMMI, Colorado Springs, CO; Yam Yamiolkoski, 719-488-5526, Ron.Yamiolkoski@aecom.com

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@yahoocom

Aug 21-22
Tahlequah, OK Rock & Mineral Show, Janice Walkingstick, 918-457-5001

Oct 2-4
RMFMS Show & Convention, Roswell, NM, www.rmfms.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

Jun 19
Cave of the Winds: A GeoAdventure, 719-633-4991

Jul 13
Kemmerer, WY field trip, $60/pp. White Mnt Gem & Mineral Club; Eunice McQuiston, 928-536-7209

CSMS Field Trips

Jun 6
Hartsel Barite, Mike Nelson, csrockguy@yahoo.com

Jun 14
CSMS Claim, Ray Berry, rayber@q.com

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 Mountain Gem Mine, Joe Dorris, pinnacle5 @pinnacle5minerals.com

AFMS News

DEE HOLLAND, AFMS
VIA AFMS NEWSLWETTER, JUNE –JULY 09

Time is Running Out!

Hurry, hurry, hurry. Time is running out for you to purchase your tickets for the AFMS Endowment Fund drawing which will be held during the 2009 convention in Billings, MT this July. You could be the proud owner of one of the fabulous prizes donated by rockhounds across the country, and you do not have to be present to win!

We've added several new prizes and more are on the way. You can see them in "living color" by visiting <www.amfed.org/endow 2009.htm>. You really have to see them in color to appreciate their beauty!

Here are the latest that have been added as of press time.

Prize #10 is a Chondrite meteorite. Chondrites are believe to originate in the asteroids that orbit the sun between Jupiter and Maras and contain between 2 and 21% iron-nickel metal.

#11 is a multi-color Guatemalan Jadeite cabochon set as a pendant in sterling silver. Estimated value of $75.

#12 is a Smoky quartz from Petersen Mountain, NV set in a gold-filled wire-wrapped pendant. Estimated value of $150.

#13 is a vibrant one-of-kind off-loom beaded pendant. The estimated value of this lovely pendant is $120.

#14 is a spectacular dolphin carving. The smoky quarts dolphins are riding on a milky quartz wave. The piece has an estimated value of $1,200. (No picture available yet).

You may purchase your tickets for the drawing by sending a check, payable to AMFS Endowment Fund", along with your name, address & phone number, and a self-addressed, stamped envelope to Richard Jaeger, 3515 E. 18th St., Tulsa, OK 74137.

Tickets are $5 each or 5 for $20 and are drawn by regions.

RMFMS News

No newsletter is published in June or July.

For the Record . . .

EDITOR

Roger Pittman and Ray Berry have each recently conducted presentations for the Pueblo Rockhounds Club.

Roger Pittman gave two presentations at French Elementary School on Friday, March 25th. There were 5 classes of second graders totaling 100 children, split into two groups.

The annual Creek Walk field trip was a 'shining' success in spite of the dreary and wet Springs weather of the preceding 2 days—the 'rock god' (Drew Malin) and the weather god (Mother Nature) smiled on us!

USPS changes: Not only has the postage gone up AGAIN, but we are now required to place more information on the mailing labels and prohibited from stapling our newsletters.

Are you preparing an exhibit for the RMFMS or AFMS show? Now's the time to start getting it together. We need exhibits to represent CSMS at these events. Let's show the Colorado rockhound spirit! The AFMS Show is in Billings, MT, Jul 30-Aug 2. The RMFMS Show is in Roswell, NM, Oct 2-4. Registration forms are available from their respective web sites. If you don't have email, contact Yam or Betty to obtain a form.

Caring CSMS members are needed as volunteers to assist with the upcoming Rock Fair. Please contact Yam and lend a hand.

Tips & Tidbits:

To tumble soft material that is hard to polish, start with the second coarsest grit. Fill the tumbler 3/4 or 7/8 full so the stones will roll and not fall. About 1/4 the normal amount of cerium oxide polishes better than the usual polishes *(from Owyhee Gem, via various sources from SCRIBE 2008 CD).*

Get more out of your tumbling by adding specially shaped stones to your regular stones. Hearts, crosses, and elongated triangles made by cutting a rectangular slab across the diagonal are some of the possibilities *(from Quarry Quips, via various sources from SCRIBE 2008 CD).*

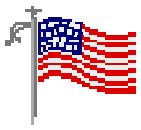
Renovate brittle dop wax by adding a piece of bees wax the size of a pea to 1/4 pound of dop wax *(original source unknown via Breccia 4/98, via various sources from SCRIBE 2008 CD).*

Don't be satisfied with scratches in your cabochon. Go back to the sanding wheel again. When stone is properly polished, you can read the reflection from the bottom of an overhead fight bulb in the high polish of your stone. To work out the flat spot in cab, mark across the stone with aluminum pencil. When properly ground and shaped, you will have erased the cross and flat spot *(from Ft. Lewis Rock Club News, by Dug Dugger, via various sources from SCRIBE 2008 CD).*

An Aluminum Scriber is often used with a template to outline stones. This same scriber can give you an idea as to the hardness of a particular stone. If you can see the mark but have to look carefully, the stone is about 7 Mohs. If the mark is very bold, the stone is about 5 Mohs. If the mark cannot be seen, the stone is more than 7 Mohs *(from Ft. Lewis Rock Club News, by Dug Dugger, via various sources from SCRIBE 2008 CD).*

JUNE 2009 — CSMS CALENDAR

!Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4 7p Board Meeting	5	6 9:30a Hartsel Barite Field Trip D Day
7	8	9 7p Micromount Group	10	11	12 7:30p Crystal Group	13 Natl. Get Outdoors Day
14 9a Berry Claim Field Trip Flag Day	15	16	17	18 5:15p Junior Group 6:30p Pebble Pups 6:30p Rock Fair Mtg 7:30p Gen Assembly	19 Cave of the Winds GeoAdventure	20 Rock Fair @ WMMI
21 Father's Day *Summer Begins*	22	23 7:30p Camera Group	24	25 7p Faceting Group	26	27
28	29	30	7/1	7/2	7/3	7/4 Independence Day



REFRESHMENTS FOR GENERAL ASSEMBLY MEETINGS

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

Area Code 719

ELECTED EXECUTIVE COMMITTEE MEMBERS			
PRESIDENT	Ron Yamiolkoski	488-5526	Ron.Yamiolkoski@aecom.com
VICE PRESIDENT	Mike Nelson	522-1608	csrockguy@yahoo.com
SECRETARY	Bob Germano	487-8945	gliders1@hotmail.com
TREASURER	Ann Proctor	684-9010	annmgmt@msn.com
MANAGING EDITOR	Betty Cain	634-8205	bettycain3@comcast.net
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			
FIELD TRIP CHAIR	Ron Yamiolkoski	488-5526	Ron.Yamiolkoski@aecom.com
HISTORIAN	Brenda Hawley	633-5702	bghsprings@hotmail.com
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	prpittman@directv.com
CRYSTAL STUDY	Kerry Burroughs	634-4576	kburrou@comcast.net
FACETING GROUP	Dave Wilson	635-7891	dlwilson@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*

MAY 21ST GENERAL ASSEMBLY MINUTES

BY BOB GERMANO, CSMS SECRETARY

Ronald "Yam" Yamiolkoski called the meeting to order at 7:31PM and proceeded with the salute to the flag.

Yam announced the passing of a CSMS Lifetime member (44 years), Dr. John J. Sampson. Dr. Sampson graduated from the University of Colorado and Creighton Medical School. He was awarded the Bronze Star during WWII for heroism. Ray Berry and Kay Thompson paid tribute to Dr. Sampson, detailing his collection of smoky quartz, malachite, azurite, and his outstanding collection from Bisbee, Arizona. We observed a moment of silence in honor of Dr. John J. Sampson. CSMS is in the process of purchasing a book to donate to the Penrose Library in the name of Dr. John J. Sampson.

A motion to approve the April 16th minutes as they appeared in Pick&Pack was made, seconded, and approved.

Ann Proctor provided a detailed Treasurer's report as of April 30th to the membership indicating that CSMS remains solvent.

Yam introduced our only guest, Mr. Eric Vesterby, President of the Gold Prospectors. Eric informed the CSMS membership the BLM has requested the Gold Prospectors provide a host for the Cache Creek area from June to October. He extended the offer to the CSMS membership. The host is required to note/document the number of people and type of equipment utilized in the area. The BLM is offering a $20/day stipend to those individuals volunteering. They are encouraging volunteers to signup for 4 days or more. The host will be allowed to camp in the area with equipment ranging from a tent to a small camp trailer. Motor homes are not able to get into the site. Eric also noted some finds of petrified wood and arrow heads in the area. (Note: Arrow heads should not be collected on public lands.)

Yam introduced the Group Chairs, noting Drew Malin has elected to no longer host the Lapidary Group at his house. He requested the various Group Chairs provide an occasional article for Pick&Pack that describe their activities. This would not only assist the Pick&Pack in being considered a more complete newsletter, but will provide our new members with detailed information to determine their interest/participation in the various groups. To ensure our members have access to the CSMS lapidary equipment, Yam is actively seeking a volunteer to take over the Lapidary Group. If you are interested or need further information, please contact Yam.

Additionally, we are still looking for an enterprising individual to take on the role as Publicity Chair.

The CSMS website is viewed daily by many people, and we want to keep it as up-to-date as possible. We are looking for volunteers to serve on a committee to work with our Webmaster, Allen Tyson, making enhancements, additions and deletions to galvanize a first class website.

Yam announced that the Annual CSMS Picnic is scheduled for August 22nd at WMMI. This year's theme is food of the Pacific Rim (or for the geologists in our group – Food from the "Ring of Fire". This covers Asian, Mexican, the Pacific Isles, etc.) More details will be coming out in June.

Member-at-Large Chuck Webb had no additional information, questions, or concerns to share with the membership.

Committee Reports:

A reminder to all, the Annual Pikes Peak Gem & Mineral Show Chair is Rick Copeland and the show is currently scheduled for December 5th & 6th at the Phil Long Center. Show meeting will commence July 09.

Field Trip Chair Ronald "Yam" Yamiolkoski announced Field Trip sheets are available at each general meeting and on the website <www.csms.us>. Yam stated his goal is a total of 25 or more field trips for 2009.

Drew Malin & Ronald "Yam" Yamiolkoski are the chairs for upcoming Rock Fair at WMMI, sponsored by CSMS. The event is scheduled for June 20th 9:00 AM to 3:00 PM at WMMI.

This brought us to the meeting break; sponsored this month by the Faceting Group.

We continued the General Meeting with Yam introducing our speaker, Loren Lowe.

Loren presented: "The Illusive Gold of Antelope Springs". Loren is an active gold panner, holds titles to several claims, and is perhaps the Club's most knowledgeable member in the area of gold prospecting. Loren detailed the efforts to find gold in the Antelope Springs area in the early 1900s. Loren retraced the steps of the old prospectors showing original maps and pictures of the remnants from the original dig sites. After analyzing several soil samples from a variety of locations, Loren came to the same conclusions as the old prospectors—there is little gold in Antelope Springs.

Announcements:

Please check the CSMS website periodically for updates on Field Trips. If you have not paid your dues yet, please get them to Bill Cain as soon as possible. He has applications available, or you can download them from the web site. The Fossil Group will provide the refreshments for the June General Assembly Meeting. Don't forget that the next Rock Fair Planning meeting will be at 6:30 PM on June 18th, before our General Assembly Meeting. We will need volunteers in order to make the Rock Fair a success**!**

The General Membership meeting adjourned at 8:51 PM.

June 2009

PICK&PACK

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

The PICK&PACK is published at least ten (10) times per year with email distribution and/or printed copies to 420 recipients per month (no issues in January or August); special editions may be distributed during January or August.

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.

Earth Science Courses that Rock

Cave of the Winds: A GeoAdventure, June 19, 2009, Pillar Institute of Lifelong Learning, Call 719- 633-4991 to register Cost: TBD

This adventure is designed for everyone! The morning will start with a PowerPoint lecture on the geology of caves at a Pillar classroom, and then entering a world underground, we will investigate cave formations in the cool air of the incredible Cave of the Winds. This is one of the more complex maze caves in the state. Skilled guides and Professor Steven Veatch will lead you into a surreal underground world of magnificent natural formations. *Colorado Caves: Hidden Worlds Beneath the Peaks* is included with this field trip. This 144 page book includes 158 beautiful full-color and historic black-and-white photographs and details the discovery, exploration, history, scientific study, surveying, commercial development, conservation, and photography of the state's unique collection of caves. After our adventure we will have a brown bag lunch in the area.

The Fossil Record: An Introduction to Paleontology, June 20, 2009, Cripple Creek Park and Recreation, Cost: $69.00
Call 719-689-3514 to register

This class provides a basic introduction to paleontology, the study of the ancient life on earth and the fossils that remain behind. Paleontology is a field of continuous discovery where advances in technology and procedures of inquiry allow scientists to reconstruct earlier and very different worlds. Two field trips included. This course has 0.5 semester of graduate credit from the Colorado School of Mines (tuition is a separate cost).

Betty Cain, Editor

PICK&PACK
P.O. BOX 2
COLORADO SPRINGS, CO 80901-0002

Time Value
Do Not Delay
June 2009

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 11.

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.