

PICK&PACK

THE BULLETIN OF THE COLORADO SPRINGS MINERALOGICAL SOCIETY Published Since 1960

SEPTEMBER 2008

PICK&PACK

Volume 48 Number 8

SUMMER EXCAVATION YIELDS NEW FOSSIL DISCOVERY

By BRET BUSKIRK AND HERB MEYER

EDITOR'S NOTE: Bret Buskirk is one of the Florissant Fossil Beds National Monument summer interns sponsored by CSMS and Herb Meyer is a WIPS intern.

Early in the afternoon on July 11th, a species new to the Fossil Beds was discovered during a test excavation by the Paleontology crew at the monument. A *Ginkgo* leaf was found preserved in the 34 million year old lake shale. Having no prior ginkgos described here makes it a first for the park. This specimen helps to provide an enhanced view into the ancient forest that grew at Florissant just before the Eocene-Oligocene boundary, when a major climate cooling took place. It also provides evidence for a wider geographic range than previously thought for ginkgos during the Eocene. They have currently never been found from Eocene floras farther east than southwestern Montana. Finding this fossilized ginkgo has given the monument one more piece to the puzzle that is the Florissant Fossil Beds.



Ginkgo biloba is the only known surviving species of the *Ginkgoales*, a group of primitive gymnosperms. *Ginkgo* exists today solely in cultivated stands of trees and or as an ornamental used in landscaping. Although there are reports of possible natural occurrences of *Ginkgo* in China, it is uncertain whether the trees would have survived without cultivation over the millennia. Trees were commonly planted in temple gardens, perhaps because of their medicinal qualities. Their survival has relied purely on human intervention. The *Ginkgoales* have existed since the Late Paleozoic, over 250 million years ago, and they were widely distributed and more diverse during the Mesozoic. They are commonly found among temperate climate fossil floras and thrive in temperate and subtropical areas today.

There are abundant *Ginkgo* fossils found on the West Coast of North America from places like the Miocene Ginkgo Petrified Forest outside of Ellensburg, Washington, and the Eocene and Miocene formations of the John Day Fossil Beds in eastern Oregon. Both areas have fossil floras that exemplify temperate to subtropical climates. As well, the Late Eocene to Early

(See GINKO on page 4)

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CSMS is an incorporated nonprofit organization with these goals:

- To promote and disseminate knowledge of the earth sciences, especially as they relate to mineralogy, lapidary, and fossils.
- To encourage study, collection and fashioning of minerals.
- To accomplish the same through social meetings, lectures, programs, displays, shows, and field trips.
- The Pick&Pack is published monthly to assist and promote the above.

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Founded in 1936

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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 photos remain the property of the submitter and will be returned. Electronic photos should be submitted at resolutions above 200 dpi in TIF, BMP, JPG, or PIC format.

Mail or email to:
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The PICK&PACK is published at least ten (10) times per year; 350-375 copies mailed per month (no issues in January or August).

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PRESIDENT'S CORNER

BY RICK COPELAND, CSMS



Rick Copeland

Greetings Fellow Rockhounds!
 Well, thanks to Ron (Yam) Yamiolkoski, a small army of workers, and a gorgeous Colorado day, the annual CSMS picnic was a blast. We had plenty of good eats and lots of rock swapping at the tail gate. I hope no one took offense to me pulling my chair up to the banquet table. I felt as CSMS President it was my duty to sample everything to be sure it was good enough for the rest of you members. Leadership does have its challenges (*privileges*).

I also coined a new expression at the picnic: "My tailgate. My rules." I used it quite often when someone would point out an attractive slab in one of my tubs, and I would quickly toss it into my private stash bucket. All in good fun, and fun was the theme of the day.

On a CSMS business note, we have quite a few CSMS assets, and we don't have an accurate accounting of what it is or where it's at. We need to identify it, record its serial number or other identifying marks, and place a Property of CSMS stamp on it. So if you have some CSMS property, please shoot Yam an email letting him know. He is the collector of the information; the next board member who misses a board meeting will be assigned the duty of tagging and recording. ☺

Summer is winding down on us, and we are still trying to schedule a couple more field trips so stay tuned to the CSMS website for updates.

I hope everyone's summer has been as enjoyable as mine. Until next time!

NEXT GENERAL ASSEMBLY PROGRAM

The September 18th General Assembly presentation will be "Rock Tumbling—Not Just For Kids Anymore!" by Rick Copeland.

Rick is our current CSMS President and has a lot of experience in this area. He is the owner of Rocky Mountain Wonders, a successful business selling his jewelry creations at shows and on the web.

Whether you're a beginner or expert, you are sure to learn something new from this program.

RECOGNIZE YOUR MEMBERS

BY LORETTA OGDEN, AFMS

One of the new things happening this year is the awarding of certificates to those who have been recognized by their club as "AFMS Rockhound of the Year". We had a great time at the CFMS show, and it was terrific to give out the certificates honoring your members so far this year. It is my hope that we will have as many or more nominations before the end of this year. It is easy. Costs the club nothing, and earns so much good will.

Just write a 50 to 100-word paragraph describing the accomplishments of your nominee, and send it to me preferably by email. Remember you can submit the name of one individual or couple (husband and wife) plus 1 junior per year. Send your nomination to me at <donogden@aol.com> subject: for Loretta. I will take it from there. That's all there is to it. Your members will love it, and the rest of the Federations love to read about what kinds of things club member of other Federations do.

Hope to hear from you soon. I will need to have all nominations for 2008 by October 1, 2008.

Editor's Note: Loretta is speaking to regional federations; our club nominations should be submitted to me, and I will forward to Howie Whitting at the RMFMS Federation.

AFMS NEWS

BY SHIRLEY LEESON, AFMS PRES

We've had some time to rest up from the recent Regional Federation meetings in Northwest and California. But I want to tell you about two events that may interest you.

In the Northwest, Lyle Vogelpohl, NFMS Treasurer, announced that for the first time in many years the NFMS has increased its membership instead of decreasing it. This is encouraging, to say the least.



I'd like to share something I think will interest many BEADERS throughout the regions. With the help of Phyllis George, and the group beaders from the Houston Gem & Mineral Society, we were given a working plan for putting a beading section in the AFMS Rules. When we arrived at the CFMS show in Ventura in June, we showed the proposal to Cheri George (no relation), and she continued where Phyllis and her group left off. After Cheri got all the suggestions in order, they were put in the "Rules speak". We hope the Uniform Rules Committee will look favorably on it and pass it at their meeting so we can begin having a Beading Section in the AFMS Rules Book next year, 2009. Watch for developments.

The events planned for the AFMS/SCFMS convention and show (9/25-28) are outstanding. You're only problem is choosing which one because some overlap. You just can't pack all the things planned into such a short period, but they have certainly tried.

This year I have sent our "Alerts" from the Blue Ribbon Coalition to various regional federations, clubs, and individuals, letting them know about proposed road closures. I would like to offer this service to all the clubs—send me your email, and I'll alert you to things happening in your area by Forestry and BLM. What I have planned is a network of emails of clubs so we can keep in contact. Your email is important and a resource. If someone would like to take on a state and build a network within that state, let me know. Here in California, we already have a loose network, but I'd like to see every club have a representative on the network.

WMMI HAPPENINGS

LURE OF THE WEST: THE KATHERINE & FRED FARRAR COLLECTION, EXHIBIT OPENING THURSDAY, SEPT. 18 AT 5:00P



The Western Museum of Mining and Industry celebrates the Museum's founding family with an exhibition of never-shown artwork from Katherine and Fred Farrar's private collection. The exhibit will feature the works of renowned Western artists, Harvey Otis Young, Charles Partridge Adams, and Joseph Henry Sharp. The exhibit opening will start at 5p with a preview of the collection along with music, beverages, light appetizers, and talk at 6p on Harvey Otis Young. The exhibit will run through December 2008. **Exhibit opening is free. Reservations please at (719) 488-0880.**

SEPTEMBER 20, OUTSIDE MACHINERY DAY 10:00A & 1:00P

Hear the shrill whistle of the Western Museum of Mining & Industry's 1928 Osgood Steam Shovel. Learn how compressed air locomotives re-placed the poor mule in hauling mountains of ore, and then see one rumble out of the past and down the track! Included with admission. **Please note, this is the last Outside Machinery Day for the year. Don't miss out!**

UPCOMING SHOWS

Sep 10-14

Denver Mineral & Fossil Show, Holiday Inn-Central, 4849 Bannock St. (I-25 & I-70)

Sep 12-14

41st Annual Denver Gem and Mineral Show, Merchandise Mart Expo Hall, 451 E. 58th Ave (I-25 at Exit 215) www.denverminearlshow.com

Sep 25-28

AFMS Show, Humble, TX www.amfed.org

Oct 11-12

Topeka Gem & Mineral Show, Ag Hall, Kansas Expocentre, Topeka, KS, Rock2Plate@aol.com 785-267-2949

Nov 7-9

RMFMS Show, Tulsa, OK www.rmfmms.org

Dec 12-14

Flatirons Mineral Club, Boulder County Fairground, 9595 Nelson Rd. (Nelson & Hover), Longmont, CO

CSMS FIELD TRIPS

Sep 6 & 7 (chg from 8/23)

Taos, NM for Staurolites, 9a, contact Roger Pittman at 719-683-2603 rpittman@netzero.com

Sep 20

Gold Camp Road, 8a, contact Ray Berry at 719-598-7877 rayber@q.com



Wild Asters and Burning Bush by Joseph Henry Sharp

OCTOBER 3, HAUNTED MINES OPENS 7:00P

Experience Total Terror!

Looking for some *thrills* in October? Check out the **HAUNTED MINES** on the grounds of the Museum. The attraction will be open every Friday, Saturday, and Sunday in October at 7pm and will be open every day beginning October 27 thru November 1. Additional information may be obtained at

www.hauntedmines.org

GINKO (CONT'D FROM PAGE 1)

Oligocene Beaverhead Basins, in Southwestern Montana, have floras that are most similar to Florissant's and previously had the eastern-most *Ginkgo* fossil found in the continental United States from the Eocene. The new fossil *Ginkgo* from Florissant demonstrates that the geographic extent of *Ginkgo* was far larger than previously thought. The fossil is indistinguishable from the modern *Ginkgo biloba* and is the first fossil record for this species from Colorado.

The fossil itself is no larger than a deck of cards. It is 2 by 2.5 inches, and both part and counter-part of the fossil were collected. Having been preserved in lake shale, the fossil is incredibly fragile and prone to breaking, and because of this, careful stabilization techniques have been used. Since the discovery of the specimen, it was mounted and reinforced on additional pieces of shale and has been nested into a bed of conservation sheet foam that was cut and molded to its shape, helping to ensure that no disturbance or destruction should befall the specimen.

Paleontology at Florissant Fossil Beds is an ongoing endeavor in which amazing discoveries are still being unearthed. New information is constantly being gathered, detailing how life existed here more than 34 million years ago. To discover a fossil so rare and fragilely preserved as the *Ginkgo* is quite an extraordinary find. Scientific collecting at Florissant over the past 135 years has amassed more than 40,000 specimens, yet even with such huge collections, this summer's find represents Florissant's first and only fossil *Ginkgo*! We can only hope to continue finding such amazing fossils here at the monument in the future.



Picture from the picnic Photo by Ray Berry

FAMOUS NAMES, NOT SO FAMOUS PLACES: MT GUYOT

BY MIKE NELSON, CSMS

Arnold Guyot will always be remembered in the history of geology as one of the modern "fathers" of the science of glaciology. Guyot was born in Neuchatel, Switzerland in 1807 and graduated with a Ph.D. from the University of Berlin in 1835 (*The Natural History of Lakes*). He became friends with the eminent Swiss geologist Louis Agassiz and began studying the mountain glaciers of the European Alps, including moraines, glacier flow, and erratics.



Fig 1. Summit of Mt. Guyot on the Continental Divide, Park County. Note the light colored quartz monzonite as "bedrock". Photo by author

In 1838, Guyot started a long-term project to study the geographic distribution of continental glaciers, testing the theory proposed by Agassiz that much of northern Europe had been, at one time, covered by glaciers. He also became the first scientist to describe the differential rate of flow in an ice sheet demonstrating that such flow occurred on the molecular level.

In 1848, Guyot immigrated to the United States and with the help of Agassiz, then at Harvard, and Joseph Henry, the Secretary of the Smithsonian Institution, began to establish a network of weather stations in the northeast. Eventually this network became nationwide and was the forerunner of the U.S. Weather Bureau.

An academic position opened at Princeton in 1854, and Guyot became the first Blair Professor of Geology, a position he held for over three decades; he is considered as the founder of the Princeton Department of Geology. Guyot also had a strong interest in meteorology and geography and specialized in taking barometric measurements of Appalachian peaks in order to determine their elevations. In 1856, he established the Princeton Museum of Natural History.

Professor Guyot has been honored by the naming of three "Mt. Guyots" (New Hampshire, North Carolina, Colorado), the Guyot Glacier in Alaska, and the Guyot Crater on the moon. In addition, the flat-topped seamounts on many parts of the ocean floor are named "guyots".

Mt. Guyot (the Colorado mountain) is located on the continental divide in Park County west of Jefferson (Lat/Lon 39.45890 degrees N/105.9375 degrees W) at an elevation of 13,370 ft. (Fig 1). The mountain may be accessed by traveling west from Jefferson on Pike National Forest Road 35 and then taking the left fork up Michigan Creek on Forest Road 54 to the summit of Georgia Pass (11,585 ft.). The last several miles are a high clearance, 4-wheel drive road. Mt. Guyot is the major peak immediately west of the Pass, and one can access the Summit "trail" from the Pass. However, please note that after the first quarter mile, the "trail" is a pure steep talus slope and quite moveable!

Two completely different rock units, separated by a major fault, are present in the Georgia Pass/Mt. Guyot area. The Pass has exposures of Early Proterozoic ("Precambrian", ~1700 mya) metamorphic gneiss and amphibolite (dark colored heavy rock composed mainly of the mineral hornblende). Mt. Guyot is composed of an intrusive igneous quartz monzonite (a rock similar to granite but with significantly less quartz) of (Next page)

mid-Tertiary age. It appears that the Mt. Guyot exposures are part of the much larger Bald Mountain Sill located approximately two miles to the south. A sill is an igneous feature where the magma is intruded into previously existing rocks parallel to their bedding planes (as opposed to a dike where the magma cuts across bedding planes). Separating these two rock units is a branch of the Elkhorn Thrust Fault (a low angle fault that has moved the older gneiss/amphibolite over the younger quartz monzonite).

There is evidence of hydrothermal alteration in the quartz monzonite, and I was able to collect some really nice crystalline pyrite and chalcopyrite. In fact, these were some of the nicer crystals that I have collected in the region. Cavities in the rock often contain micro crystals of double terminated quartz, and one specimen has fragile quartz crystals about the diameter of a "horse hair". One older mine was noted with a collapsed adit; however, I was unable to locate records of metallic ore production, so perhaps the mine was an exploratory shaft. Scarbrough (2001) noted the occurrence of the Horn Mine in the general area of Georgia Pass/ Mt. Guyot, but I was unable to locate the mine. The Horn produced uranium, probably from the Proterozoic rocks. Scarbrough (2001) also mapped the Michigan Creek gold prospects and placers. I panned several localities over the last two years but found very little gold (a few flakes of flour). Evidently, Michigan Creek was not a significant producer of the metal.

Arnold Guyot would have been proud of his namesake as the mountain displays a spectacular example of a glacial cirque (Fig 2). A cirque is one of the most distinguishable pieces of evidence pointing to the existence of a mountain glacier and is a semicircular bedrock feature created as glaciers scour back into the mountain. A cirque is where the snow and ice forming the glacier first accumulates (Fig 3). The valley below the cirque displays the characteristic "U shape" and has several paternoster lakes (known as the Michigan Lakes) (Fig 4).

Mt. Guyot certainly is not as famous as some of the nearby four-teens but is a great mountain for a partial day hike, displays some fantastic glacial landforms, and has produced, at least for me, some very nice crystals. Arnold Guyot would be proud.

REFERENCES CITED:

Scarbrough, L. Alex Jr. *Geology and Mineral Resources of Park County, Colorado*. Denver: Colorado Geological Survey. Resource Series 40, 2001.



Fig 2. Mt. Guyot as seen from South Park in early June 08. Note the spectacular glacial cirque with the U-shaped down valley. Photo courtesy of Paul Gana at <http://paulcoloradophotography.smuqmuq.com/>

Photo by Author

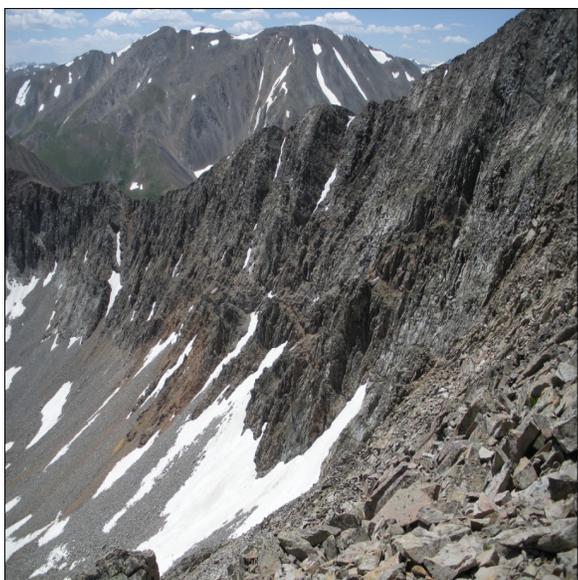


Fig 3. Headwall of the Mt. Guyot cirque

Photo by author



Picnic photo—Isn't that "rockhound" paying attention!
Photo by Ray Berry



Fig 4. U-shaped valley resulting from erosion by the Mt. Guyot glacier (cirque to right). Note a paternoster lake in valley

Photo by author

RMFMS PRESIDENT'S MESSAGE

BY STAN NOWAK, RMFMS



RMFMS JUNIOR CASH AWARD

BY DIANE WIER, RMFMS

We would like to invite all of the clubs in the RMFMS to participate in our Junior Cash Award Program. It consists of the following.

Well, it has been a long summer. Hopefully the cost of fuel has not deterred too many of you from attending shows, swaps, or field trips. We have two major shows coming in the near future. The AFMS Show in Humble, TX (in September) and the RMFMS Show in Tulsa, OK in November.

I know the RMFMS Show is later than most federation shows, but if your normal delegates can't make it and no one else from your club is going, please get with your state director or another state club to provide proxy votes representing your club. The last few years there have been just enough by one or two for a quorum. Without the quorum, no official business can be done at the convention. So please try to attend or authorize proxy representatives for your club. I have talked with past RMFMS President Richard Jaeger who is the show chairman, and it will be a good show. My wife and I will be providing another mystery box for the silent auction, as we have for several area clubs.

I would like to thank the clubs that have donated to the scholarship fund so far this year. It is an outstanding program available to earth science/geology students. It helps all the clubs as well with publicity and awareness that we exist.

If your club has any good ideas or projects that you would like to advertise, be sure to let your delegates present it at the Tulsa convention. We are in dire need of clubs to host future federation shows. I will gladly assist any club in helping set up a federation show, while I am still in office or in years after I am not. I truly believe that having federation shows spread around the various member states is very beneficial to both the local host club and other federation clubs. It gives exposure to the local club and provides ideas about how other clubs operate and what the local host may be able to help provide to the other clubs in the federation.

There are two \$25 cash awards: one to a Junior aged between 6-12, and the other to a Junior aged 13-17 years of age. Each Junior may enter ONE specimen only, in one of the following categories:

1. Minerals
2. Lapidary & Petrified Wood
3. Fossils
4. Jewelry (using specimens collected in the field)

The Junior must collect the specimen himself/herself. Then he/she needs to make a label that identifies the specimen (e.g. AQUAMARINE, QUARTZ), classifies it (e.g. sulfide, carbonate, silicate, oxide, etc.), and states the name of the Junior's club. If the specimen is a fossil, it should also state the period from which it came. The specimen should be mounted on a base or stand to best display the specimen. No personal name of the Junior should be on the label.

The Junior must submit an entry form to me no later than Oct. 20th. He/she does not have to be present at the RMFMS Show. The Junior can send his/her entry with a fellow club member or his/her State Director (it is the Junior's responsibility to get it to the Director). The specimen must be presented on Thursday, Nov. 6th, the day of set-up. The entry form can be found at <www.rmfm.org> under the 2008 Show information (Junior Cash Awards) or you can contact me, and I will send you a copy.

We look forward to having many Juniors enter! It would be tremendous if every club in the RMFMS participates!

Diane Weir <dcweir@dfn.com>, RMFMS Junior Chairperson, 2300 S. Union Ave., Roswell, NM 88203, (575) 633-5679.

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Junior Cash Award Entry Form

Name: _____ Age: _____

Name of Club: Colorado Springs Mineralogical Society

Exhibit Space Required: _____

Example: If the specimen is mounted on a piece of plastic that is 4x5 inches and the label is 2x4 inches, then the footprint of the exhibit will be 6x5 inches. The Junior Chairman will know that this exhibit plus margins will require somewhere around 10x9 inches and will arrange the exhibits in cases for the best fit.

Certification: I certify that I collected and performed all work on this specimen and that I am a member of a RMFMS Club.

FOR THE RMFMS SHOW—Return by October 20, 2008 to: Junior Cash Award, 2300 S. Union Ave., Roswell, NM 88203

MISSOURI SCHOOL GOES ROCKHOONDING IN COLORADO!

BY ROGER PITTMAN, CSMS

The Science Club of Oak Park High School, Kansas City, MO, planned to visit Colorado to attend an astronomy seminar north of Tarryall. While they were here, they wanted to do a little rockhounding. Their science teacher, Lario Yerino, contacted a Kansas City mineral club who provided him with several phone numbers of Colorado rock clubs. Out of the 6 clubs contacted, only CSMS's member Roger Pittman returned his call. Arrangements were made to meet Lario's group of 2 adults and 3 students on the 4th of July.

When Lario made his plans known at the astronomy seminar, his group grew to 8 students and 3 adults. Remember now, these students are staying up all night looking at stars, and now they are driving a hundred miles to look for rocks. We met in Buena Vista and then proceeded on to Salida to a peridot location. The mini vans had to stop when the going got tough, and 8 students piled in with Pat, Roger & Blaster – now totaling 11! We drove up past a lot of rocks that have been painted orange (wondering if that is the location(s) of the new CSMS claims) and began to collect. All found peridot, and one young lady found an arrowhead.

During the course of the day, we agreed to meet again on the 5th in Leadville to collect orthoclase and pyrite. We collected several nice orthoclase crystals and while there met a prospector who agreed to show us the Turquoise Chief mine. So, we skipped the pyrite and followed him through driving rain to the old turquoise digs. Still raining, we collected for about an hour then headed for town and much need food. The ever present mosquitoes probably did the most collecting at the turquoise mine, but it is a location that had eluded me for many years. Thanks, Wink!



Oak Park, MO Science Club members and teacher enjoy the hospitality of Roger & Pat Pittman on a 7/5 peridot field trip

Photo by Pat Pittman

Student proudly displays the arrowhead she discovered on the field trip

Photo by Roger Pittman



PICK&PACK

WINDMILLS

CAPTURING THE ENERGY OF WIND

BY STEVEN WADE VEATCH

PEOPLE HAVE BEEN USING THE ENERGY of wind for thousands of years—Egyptians used sailboats to capture wind power for transportation 5,000 years ago; the Chinese started flying kites 2,000 years ago; and wind furnaces were used in Sri Lanka over 1,300 years ago.

Windmills, according to archaeologists, were first built in Persia (Iran) around A.D. 600 to use the power of the wind to grind grain and pump water.

Historically, windmills have been important in farming and industrial applications. They appeared in Europe around the 12th century, and by the 18th century there were thousands upon thousands of windmills across Europe. The use of windmills also became popular in the New World.

Windmills work by catching the power of the wind and using this natural force to turn the windmill's blades. The turning blades then spin a shaft that turns a wheel and gears—

converting the kinetic energy of the wind to mechanical energy that runs various applications such as a pump, a grinding stone, a saw, or an electric generator.

In the 19th and 20th century, ranchers in Teller County, Colorado, relied on windmills to pump water and run sawmills. A ranching operation on what was to become the Florissant Fossil Beds National Monument, built a sturdy windmill in the late 1800s to pump water from a deep well to irrigate their lettuce and potato fields (Fig. 1). Although the once sprawling farm, located in a very scenic part of the fossil beds, is gone, the well-built windmill remains.

Today there is a revival in the use of windmills to produce electricity. The mining industry, which is power intensive, uses wind power at remote mining sites where commercial electrical power is not available or too expensive to deliver.

With increasing concern over using nonrenewable fossil fuels to generate electricity—a practice which releases the greenhouse gas carbon dioxide—the use of wind-generated electricity is becoming a viable alternative. The wind farms that appear in the landscape produce clean energy that makes the world just a little brighter and the air a little cleaner.



Fig 1. This sturdy windmill stands watch over a formerly active lettuce and potato farm located south of Florissant, Colorado. This historic farm property is now a part of the Florissant Fossil Beds National Monument Photo date 3/2008 by S. Veatch

CSMS PLACES IN THE BULLETIN CONTESTS!

By BETTY CAIN, EDITOR

We did it again! I've received notification about the CSMS winning entries in the annual Publications Contests.

We won't know for sure where we placed until the Editors Breakfasts at the regional and national shows on Nov 7th-9th in Tulsa, OK and Sep 25th-28th in Humble, TX, respectively.

I submitted 6 articles written by our members in class 5, 1 entry in class 6, 1 entry in class 8, and 2 entries in class 9 plus the October and November 2007 editions of the Pick&Pack.

RMFMS Top 5:

- Adult Articles—Jay Zimmerman
- Poetry—Steven Veatch
- Special Publications—Betty Cain ("What It's All About" and "Show Committee Performance Booklet")
- Large Bulletin—Betty Cain

AFMS Top 10:

- Adult Article-Adv—Steve Veatch
- Poetry—Steve Veatch
- Special Publications—Betty Cain
- Large Bulletin—Betty Cain

If you are planning to attend one or both of these shows and could attend the Editors Breakfasts, please let us know.

These entries would not have been possible without your contributions! I put the newsletter together, but YOU write the articles and poems. Thank you, thank you, THANK YOU! I look forward to having a ton of entries for the 2009 Publications Contest. BTW—the rules have changed a bit: Small Bulletins are 7-11 pages and Large Bulletins are 12 pages or more. A new "Features" category has been added to include written articles covering field trips, book reports, travelogues, historical commentaries, original shop hints, original drawings such as cartoons, puzzles, quizzes, and sketches/drawings. You don't have to be a polished writer to have an article submitted; it just has to be published in the Pick&Pack. I am thinking of a couple of entries all ready.

So, get those items in to qualify for next year's contest!

CLASSES & TRIPS OFFERED BY CRIPPLE CREEK PARKS AND RECREATION

Reservations may be made through Cripple Creek Parks and Recreation by calling 719-689-3514 for the following classes and field trips. Bus transportation included. A Colorado School of Mines 1/2 semester of graduate credit is available for an additional fee of \$45.

Field Studies in Paleontology: Exploring the Shelf Road from Cripple Creek to Garden Park, CO

October 18th, 8:30a to 5:30p; \$69 fee

Starting at Cripple Creek, this outdoor-based class offers an unsurpassed opportunity to explore the geological and paleontological wonders along the Shelf Road. The class will begin with a brief discussion of area mining, rocks, minerals, and fossils. The group will then set off for points south to explore geological features spanning millions of years. The field trip down the Shelf Road is a perfect route to investigate rocks, an ancient seabed, and incredible fossils. Participants will follow the old wagon roads used to haul dinosaur bones from Garden Park to Cañon City, explore a site where dinosaur bones were quarried, visit the paleontology lab at the Dinosaur Depot in Cañon City, and investigate nearby dinosaur tracks.

The basics of paleontology will be reviewed while in the field. Collection techniques and field photography will be demonstrated. Regional geology will be reviewed from overlooks in the area. Participants can collect fossils at several stops.

The Fossil Record: An Introduction to Paleontology

November 1st, 8:30a to 5:30p, \$69 fee

This class provides a basic introduction to paleontology, the study of the ancient life on earth, and the fossils that remain behind. Paleontologists, those scientists who study paleontology, are working to understand the types of plants and animals that have lived from the beginning of life on earth until the present. Paleontologists search for fossils all over the earth, discovering clues that will help them reconstruct earlier and very different worlds.

As an introduction to paleontology and the fossil record, the class will review how fossils are formed and the factors that are required for fossilization. Students will realize that not all types of organisms have an equal chance of becoming a fossil and that fossilization is very rare. This course covers the diversity of life, catastrophic extinctions, basic principles of stratigraphy, interpreting ancient environments, and the tectonic history of the earth. Different aspects of fossil interpretation will be emphasized and how fossils provide evidence of: past biodiversity, geologic age and geologic events, and past ecosystems. Provides laboratory and research experience in paleontology, including: training in fossil preparation, identification of specimens, documentation (photographic and scientific illustration), specimen curation, and professional presentation of research. There will be discussion of current research and hands-on experience with sedimentary rocks and fossils. There are field trips to the Florissant Fossil Beds National Monument and a local fossil quarry. The class highlights breakthrough dinosaur discoveries, features the mammoth found at Florissant, and other Pikes Peak area fossils.

ASK A GEOLOGIST

BY MIKE NELSON, CSMS

Rob Weiss asked, "What is the difference between quartz and agate?" First of all, let me talk about the similarities. Both minerals have the same composition, SiO₂ (Silicon Dioxide), although both commonly have trace amounts of many different elements (that impact colors).

Both have a hardness (scratch resistance) of 7 (cannot be scratched with a pocket knife), and both have a conchoidal fracture, that is the mineral is brittle and when impacted will break along a curve with a ripple effect.

New Series

The differences are many. Quartz often occurs in crystals (macrocrystals) and has a high glassy luster (shiny). It is an important rock-forming mineral and generally develops in an igneous or metamorphic environment. Some rocks are defined by the percentage of quartz present; for example, granite has at least 20% quartz while the similar appearing quartz syenite has very little quartz. Sandstone, a sedimentary rock, usually has a very high percentage of secondary quartz (the quartz was eroded from a previously existing rock). Quartz occurs in a variety of colors: purple amethyst (with trace amounts of iron and manganese), rose quartz (iron and titanium), pale yellow to golden brown citrine (with iron), brown to gray to black smoky quartz (probably natural radiation), rock crystal (clear and colorless), opalescent cat's eye (asbestos), and others.

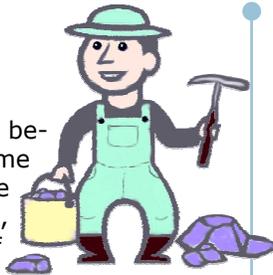
Agate belongs to a variety of microcrystalline silicon dioxide called chalcedony and can be found in various colors—white, black, blue, and brown. Some of the most beautiful chalcedony that I have collected was a blue variety from western South Dakota. Chalcedony has a dull to greasy luster, does not occur in large crystals, and usually forms botryoidal masses (mammillary or grape shaped). Varieties of fibrous chalcedony include wavy—or concentric—banded agate, carnelian (red), sard (brown), onyx (banded with layers of sard and carnelian), bloodstone (green with spots of red), and chrysoprase (apple-green). Agate is interesting in that it can form in sedimentary environments as a secondary mineral deposited by groundwater, or in volcanic environments as vein or vug fillings, or in areas of hydrothermal alteration. Some agate replaces bone or wood as in petrified wood.



Granular or cryptocrystalline chalcedony is known as red, green or brown jasper, gray flint, and cream chert (the generic name for the cryptocrystalline varieties). Opal also is a member of the quartz family and is composed of silicon dioxide and up to 10% water. Opal occurs in a variety of colors, has a pearly luster, and "opalescent", and is somewhat softer than quartz.

Quartz is a ubiquitous mineral in central and western Colorado. Some of the finest smoky quartz specimens in the world are found in the pegmatites of the Pikes Peak Batholith, especially near Lake George (CSMS has a claim nearby)/ Vein milky quartz and rock crystal quartz are also found in the pegmatites and are especially common near Rainbow Falls north of Woodland Park, CO. I have observed almost perfect crystals of clear quartz in many of the rocks found in the mine dumps of the Colorado Mineral Belt; however, they are extremely tiny and magnification is necessary. Vein amethyst is found near Cañon City (where the

Fairburn Agate from South Dakota Photo courtesy of <http://www.fairburnagates.com>



local club has a claim that was recently visited by CSMS members). The finest Colorado amethyst specimens that I have seen came from near La Gartia; however, the dumps are now closed and/or covered. Amethyst has been mined in Unaweep Canyon south of Grand Junction, but during a recent visit I was unable to locate specimens on public land. Texas Creek west of Cañon City has produced Colorado's finest rose quartz. The best agates that I have collected in Colorado has come from along the Yampa River near El Springs



Herkimer Diamonds (double terminated rock crystal quartz) from New York Photo courtesy of <http://www.geology.com>

in the far western part of the state, and south of Grand Junction on Piñon Mesa. As a native Midwesterner, I am partial to the world-famous Fairburn Agates of South Dakota and the Lake Superior Agates of Minnesota.

Probably the best way to locate collecting localities for either quartz or agate is to ask some of the CSMS members at one of the monthly meetings. Most are more than willing to share their collecting expertise (although perhaps not the BEST locality).☺

Have a question concerning geology? Send it to csrockguy@yahoo.com and watch for an answer in the Pick&Pack.

CSM GEOLOGY MUSEUM TO OPEN GIFT SHOP

The Colorado School of Mines Geology Museum will be opening a gift shop shortly on the lower level of the Museum. This is the first time that the Museum has had a gift shop in its new building at 13th & Maple Street. The shop will feature surplus mineral specimens, lapidary materials and equipment, fossils, books, fluorescent minerals, starter kits, and relate materials. Specimens will range from starter pieces for under a dollar to the fine specimens for the advance collector.

The Grand Opening will be in conjunction with the Museum's annual open house slated for 6p on 9/10. Phone inquires can be direct to Bruce Geller at 303-273-3823.

TIPS & TIDBITS:

 **Polishing Jade** — Wonder why the jade cab you are making won't reach the high degree of polish desired? The glaze caused by working with a well-worn sandpaper prevents the high polish. Try washing the stone in acetone, then washing in detergent 2 or 3 times, scrubbing with a toothbrush. Rinse well and try it on new sandpaper.

 **Polishing Jade** — A little graphite added and mixed to ordinary buffs makes a wonderful jade polishing agent. It also works on some hard-to-polish agates or by this recipe: 1 tblsp of tin oxide and 1 cp of vinegar on a leather buff (avoiding the dry buff while polishing) produces a good polish on jade, using either high or low speed.

 **Pyrite Cleaner** — Pyrite can be cleaned using radiator cleaner (DuPont #7). About 2 tblsp of cleaner in an aluminum pan with about 2 quarts of water is adequate. Action to remove tarnish is relatively rapid. To rinse, use a diluted ammonia solution to neutralize the residual action in the specimen. Follow this with clean water. Use in a well-ventilated area and always wear hand & face protection.

 **Polishing Disks** — Denim iron-on patches make excellent polishing disks. They will adhere to surfaces when ordinary glues will not. Just cut to fit wheel disks.

Source: *The Leverite News* 5/8 via *The Glacial Drifter*, 8/8.



(L-R) Ann Proctor (Treas), Ron Yamiolkoski (VP) Rick Copeland (Pres) present annual check to WMMI's Brad Poulson at the CSMS Annual Picnic of 8/23/08

Photo by Ray Berry



Treasures being exchanged at the picnic

Photo by Ray Berry

MINI MINERS MONTHLY

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WATER & YOUR MINERAL COLLECTION—PART 2

BY DARRYL POWELL

There is another problem that some minerals have which is related to water. There are a number of minerals that have water in their crystal structure. Unfortunately these minerals are unstable: this means that they break down or fall apart. What happens is that the water in their crystal structure actually comes out of the mineral!

This is a process called **efflorescence**. Common minerals which have this problem are chalcantite, melanterite, laumontite, borax, and the radioactive minerals autunite and torbernite. When these minerals effloresce they can become cloudy and white. For example, pure borax is glassy and colorless. But as it effloresces, it becomes white and dull. When borax loses its water it becomes the mineral called *tinalconite*. When tinalconite loses more water, it becomes a soft, white powder. Tinalconite specimens will actually fall apart into piles of powder just sitting on a display shelf. Other minerals, like autunite (pictured) and torbernite, don't turn white, but they do fall apart into individual pieces that look like flakes.

Efflorescence occurs naturally. It is made worse by heat and a dry air. So, the heat in your house in the winter is harmful to these minerals. Also, heat from light bulbs in your display case will harm these minerals. And, homes that have air conditioning in the summer (which cools the air but which also takes water out of the air) can speed up efflorescence.

The only known way to control this problem is to store these minerals in a cool, humid environment. A house that has a cool, damp basement is best: simply store these minerals in the basement. Recently large tinalconite specimens from California have appeared on the mineral market that have been sprayed with a coating. This seems to help but does not completely stop the problem.

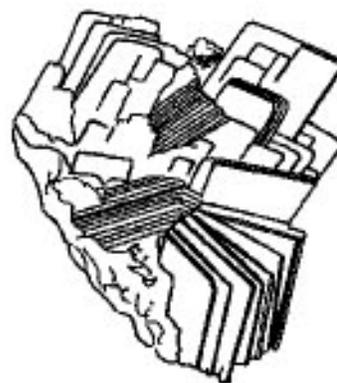
Many mineral collectors never purchase or collect these mineral species simply because it is difficult to control the problem of efflorescence. Many years ago I purchased a beautiful hand-sized specimen of tinalconite crystals for approximately \$35. I really enjoyed the sharp, bright white crystals for a long time. It sat on my display shelf of about 10 years. One day I looked at it and saw that most of the crystals had fallen into a pile of powder. When I went to pick it up, the whole specimen crumbled in my hand. I love the shape of tinalconite crystals, but I don't buy any now.

When purchasing specimens, you have to know how to take care of them so that they last for you. You, too, may decide that there are some mineral species that are not worth buying because they will break down.

Mini Miners Monthly is a monthly publication for young mineral collectors.

Subscription cost is only \$19.95 for 1 year (12 issues) or \$36.95 for 2 years (24 issues).

Diamond Dan Publications, PO Box 143, Manchester, NY 14504, diamondan@rochester.rr.com, www.diamondanpublications.com



CSMS PEBBLE PUPS

Young members of the Colorado Springs Mineralogical Society, generally under age 15, are invited to attend interesting workshops that teach about geology, general science, and various crafts. These sessions run before the business portion of the meeting and the presentation of the evening's program at 6:30p-7:15p at the Senior Center; lab is 6:10p-6:25p.



Month	Subject	Topics
September	Paleontology & Dinosaurs	Activities include using real data collected in the field, model dinosaurs, and fossils to allow students to look at the Earth's past. Actively learn how fossil evidence gives paleontologists clues to the past history of the Earth. Sedimentary rocks will be the study specimen for this month. MB



CSMS
Pebble
Pups
Peridot
Field Trip
Photos by
Frank
Rosenberg

PERIDOT FIELD TRIP

BY ROGER PITTMAN, CSMS

The CSMS Pebble Pups held a field trip for peridot on August 10th which was attended by 16 people. It had rained the night before, and, we were able to pick up dozens of small peridots where the water had run down the road. Anna Weiss found the largest Pebble Pup specimen, and Roger Pittman, trip leader, found the largest he had ever found at this location. We all had a great time!

Peridot is the crystal form of olivine (forsterite) and is usually found in volcanic rocks but has been found in metamorphic rocks and also some meteorites. The Park County location where we collected is a basaltic lava outflow. We will try to organize another trip to this location for this year.



MT. ANTERO FIELD TRIP

BY AMANDA ADKINS, CSMS

I would like to thank everyone who joined us in the adventure up Mt. Antero. What a remarkable experience! The visual journey up to Mt. Antero is an exhilarating one. Starting at the lower switchbacks, we crossed several rushing streams that were surrounded by a multitude of different colored flowers. The road proved to be a challenge to make it up this time, as the weathering has been extreme this year. Saturday morning was a cloudy start, but the weather held out for a few hours for us to collect at around 13,000 ft. near the south knob of Antero. A ferocious storm then quickly swept over us and we made our way back down the mountain with our treasures as the hail began. The hail was so thick and fast that we could hardly see out our windows on the trip back to camp and safety. The road turned into an icy river in no time. All the members made it down safely and a few members stayed with us another day. Sunday brought another rain storm but not as intense, and later in the day a few members traveled the saddle between Mt. Antero and neighboring mountain, Mt. White. The weather began to clear in the afternoon to reveal a bright sunny opportunity to find float gemstones, that seemed to be everywhere! We uncovered phenakite, fluorite, several nice gem-quality aquamarines, as well as many fully terminated smoky quartz. What a thrilling weekend it was for all! I'm glad to have gotten to dig next to the brave souls who tested the mountain, and won their treasures!



Photos by Amanda Adkins



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
SEPTEMBER 2008 — CSMS CALENDAR						
	1  Labor Day	2 Ramadan begins	3	4 7p Board Meeting	5	6 12n Lapidary Group
7	8	9 7p Micromounts	10	11	12 7p Crystal Group	13
14	15 Hispanic Heritage Month Begins	16 7p Fossil Group	17	18 6:30p Pebble Pups 7:30p General Assembly Meeting	19	20 12n Jewelry Group
21	22	23 7:30p Camera Group	24	25 7p Faceting Group	26	27
28	29	30 1st Day of Rosh Hashanah	10/1	10/2 7p Board Meeting	10/3	10/4 12n Lapidary Group

"In matters of principle, stand like a rock. In matters of taste, swim with the current."
- Thomas Jefferson

REFRESHMENTS FOR GENERAL ASSEMBLY MEETINGS

Sep—Camera Oct—Micromounts
Nov—Fossils Dec—**Everyone**

PRESIDENT	Rick Copeland	332-7915	rick@rockymountainwonders.com
VICE PRESIDENT	Ron Yamiolkoski	488-5526	theyams@q.com
SECRETARY	John Casto	329-0912	jcasto@fvs.edu
TREASURER	Ann Proctor	291-9010	annmgmt@msn.com
MANAGING EDITOR	Betty Cain	634-8205	bcain2@earthlink.net
MEMBER-AT-LARGE	Mike Nelson	522-1608	csrockguy@yahoo.com
MEMBER-AT-LARGE	Charles Webb	392-7214	
PAST PRESIDENT	Drew Malin	531-7594	advanceone@comcast.net
MEMBERSHIP DIRECTOR	Bill Cain	634-8205	bcain2@earthlink.net
FIELD TRIP DIRECTOR	Ron Yamiolkoski	488-5526	theyams@q.com
SHOW CHAIRPERSON	Drew Malin	531-7594	advanceone@comcast.net
LIBRARIAN	Sarah Udell	237-7985	sarahudell@hotmail.com
CAMERA CLUB	Roger Pittman	683-2603	rpittman@netzero.com
CRYSTAL STUDY	Kerry Burroughs	634-4576	kburrou@comcastnet
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
LAPIDARY GROUP	Rick Copeland	322-6915	Rick@rockymountainwonders.com
MICROMOUNT GROUP	Phil McCollum		acc@frii.com
PEBBLE PUPS	Steven Veatch	748-5010	Steven.Veatch@gmail.com
WEBMASTER	Allen Tyson	268-0775	allentyson@yahoo.com

Locations

Board Meeting: 1st Thursday @ 7:00p. Senior Center, Ron Yamiolkoski, 488-5526

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

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

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

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

Lapidary Group: 1st Saturday @ Noon 6608 Gambol Quail Dr E; contact Rick Copeland 322-7915

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

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

Regular meetings of various groups

Café Scientifique features a talk and discussion on some current science topic; 6-30-8:00 p.m. Tuesday evening once a month (approximately the 3rd Tuesday) at the Wynkoop Brewery (Mercantile Room), corner of 18th & Wynkoop Streets, Denver. No charge; all are welcome. <http://cafescolorado.org>

Colorado Scientific Society, monthly meetings with one or two speakers on an earth science topic, 3rd Thursday, 7:00 p.m. American Mountaineering Center, 710 10th St. (NE corner with Washington), Golden, CO. <http://www.coloscisoc.org>

Denver Mining Club, Informal weekly luncheon meetings with a speaker, every Monday, 11:30-1:00, Country Buffet, 8100 W. Crestline Ave, #A3, Littleton, CO (about 1/2 mile north and east of the intersection of Wadsworth Blvd. & Bowles), tel: 303-933-9923. No charge, but all who attend must purchase a lunch at the restaurant. See web site http://china-resources.net/den_min.html

Denver Region Exploration Geologists' Society (DREGS) meets monthly on the 2nd Monday, 7:00 p.m. Consolidated Mutual Water Company (lower level), 12700 W. 27th Ave., Lakewood, CO; no charge, all are welcome to the meetings. See <http://www.dregs.org/>

Rocky Mountain Assoc. of Geologists (RMAG) has monthly luncheon meetings with a speaker at the Marriott City Center, California St. between 17th & 18th Streets, 11:30 a.m. Luncheon cost is \$24; no reservations are needed for the talk only. See <http://www.rmag.org/>

USGS Colloquium Series, lectures on Thursday, 1:30-2:30 p.m. Foord Lecture Room, Bldg. 20, Denver Federal Center, Lakewood, CO. USGS staff, visitors, and guests are welcome. See <http://geology.cr.usgs.gov/crg/colloquia.htm>

Western Interior Paleontology Society (WIPS), meets 7:00 p.m. first Monday of the month, Sep-May, Ricketson Auditorium, Denver Museum of Nature and Science, <http://www.wipsppc.com>

CLASSIFIEDS . . .

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Have You Picked Up Your Membership Award Pin?

If you celebrated a CSMS anniversary in 2007 or 2008, your year pin award is available from the Membership Secretary, Bill Cain.

CSMS T-Shirts, Badges, and Pins are available for sale at each meeting.

NEW CSMS "DIAMOND" BACK BADGES

A new supply of the badges used on the back of our vests has been ordered and should arrive shortly. We can now proceed with vest manufacturing. If you're interested in purchasing a CSMS vest, please contact **Linda Laverty**, chilipepper24@juno.com.

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September 2008



Joining the Colorado Springs Mineralogical Society (CSMS)

General Assembly meetings are the third (3rd) Thursday of each month, except 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. For details on Satellite Group meetings, see page 12.

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

Individuals—\$20

Family—\$30

Juniors—\$2

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.