

PICK & PACK

THE BULLETIN OF THE COLORADO SPRINGS MINERALOGICAL SOCIETY Published Since 1960

February 2010

PICK&PACK

Volume 50

Number 1

CSMS is an incorporated non-profit organization with these goals:

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

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Colorado Springs Mineralogical Society

Founded in 1936

Lazard Cahn

Honorary President

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COLLECTABLE HYDROCARBONS

BY DR. MIKE NELSON, CSMS

The Uinta Basin is a large basin associated with the Sevier/Laramide Orogeny and located in eastern Utah south of the Uinta Mountains (Fig. 1). The Basin is a structural basin, as opposed to a topographic basin, meaning that it is a very large syncline, a compliment to the anticlinal Uinta Mountains. It is related to the Piceance Basin of northwestern Colorado, and the Fossil and Green River Basins north of the Mountains in Wyoming. All of the basins were the site of a large fresh water lake termed the Green River Lake System, mostly Eocene in age (see Pick & Pack v. 49, #9, and #10 for additional descriptions).

One of the more interesting aspects of these basins is the presence of numerous accumulations of hydrocarbons, the best known being the famous "oil shale", deposits, and the numerous fields of liquid petroleum and natural gas. Many CSMS members have specimens of kerogen-rich mudstone, the oil shale, suitable for cabinet displays. However, there are other types of less well-known hydrocarbons that are of interest both to collectors and to "oil" speculators—the aptly named solid hydrocarbons.

When I first arrived in the Basin town of Vernal in the late 1960's it was quite evident that during hot summer weather the city streets seemed quite "soft" and somewhat unstable. Further inquiry lead me to the nearby open pit quarry on Asphalt Ridge where city crews mined "tar sands" and constructed a paving mix. It seems as if the city had began paving with raw tar sand in the 1920's and continued to develop more effective methods until the mix was being used on state highways in the 1980's. Also during this time span numerous major petroleum companies had core drilling and land leasing operations, not only on Asphalt Ridge, but at other areas in the Basin. The companies also experimented with a hot water extraction process (Johnson, 2008)



Fig. 2. Bitumen-impregnated sandstone (tar sand) exposed at Asphalt Ridge road cut. Photo by author.

My next interaction with the tar sands came in the early 1980's when I was completing a Paleontological Environmental Impact Statement on Asphalt Ridge near a DOE funded in-situ (in place) experimental project (with a nice play on words, the TARZAN project). The bitumen-impregnated sand (Fig. 2) at Asphalt Ridge is in the Eocene-Oligocene Duchesne River Formation; however, other tar sand deposits in Utah are located in the Green River Formation (Eocene), Moenkopi Formation (Triassic) and White Rim Sandstone (Permian) (Gwynn, 2007). The Uinta Basin tar sands had their genesis in the Green River oil shales.

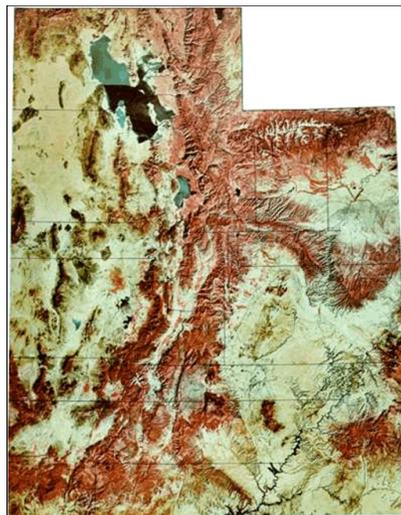


Fig.1. Landforms of Utah. The Uinta Mountains are the east-west trending range in the northeast corner while the Uinta Basin is the large oval area directly to the south. Photo courtesy of Utah State History.

The activity and commercial speculation sort of died out in the late 1980's and 1990's; however, I do know that some companies, for example Nevtah Capital Management in conjunction with privately held companies, has invested considerable resources in trying to develop an extraction process and hold many lease acres in Utah.

Whatever the case, Utah tar sands may one day play a major role in the "energy business" and a sample of this unique rock deserves a place on the collector's cabinet next to the oil shale specimen.

Perhaps the most interesting mineral in the Uinta Basin is one that a few years ago (pre-1995) would not be classified as a "mineral" and that is Uintaite, referred to in this article as the trade name Gilsonite. In 1995 the International Mineralogical Association adopted a new definition of a mineral as "an element or chemical compound that is normally crystalline and that has been formed as a result of geological processes" (Nickel, 1995). This definition opened the way for an organic class of substances that included hydrocarbons of which Gilsonite is a member (Fig. 3). Gilsonite is a solid hydrocarbon that comes from the solidification of petroleum. It is usually a dull black in the field and resembles coal; however, some fresh surfaces are quite



Fig. 3. Gilsonite. Photo author unknown.

shiny with a conchoidal fracture and superficially looks a little like obsidian.

Gilsonite in the Uinta Basin occurs in long veins (measured in miles) from a few inches to several feet thick (Fig.4) and hundreds of feet in a vertical direction. Most thick veins occur in the Green River and Uinta Formations, both units are Eocene in age (Pick & Pack, v.49, #10). In fact, the veins seem "rooted" in the oil shales of the Green River Formation. Tripp (2004) believes the Gilsonite had its beginning in the large amounts of organic debris that accumulated in the sediments of tropical Lake Uinta. The burial of these sediments created heat and pressure and the Green River oil shales were formed. Again, burial of the oil shales created water and hydrogen and

this explosive mixture was expelled and created fractures in the surrounding rock. These fractures were later filled with petroleum whose viscosity disappeared with desiccation. Gilsonite is essentially solid "petroleum".



Fig. 4. Gilsonite vein near Bonanza, UT showing timber structures that supported miners and an elevator. Photo by author.

Gilsonite was "discovered" by Caucasian settlers in the 1860's although most did not know of a good use for the substance as it melted and ran from the stoves when used as a substitute for coal. In the 1880's a Mr. Samuel Gilson began to market (as St. Louis Gilsonite Company) "asphaltum" as a waterproof substance and as an electrical insulator. However, two major problems arose: 1) many of the thick veins of Gilsonite were on the Uintah-Ouray Indian Reservations; and 2) a railroad did not extend into the Uinta Basin and Vernal (and even today the Basin is without rail transportation). Gilsonite and Uinta Basin boosters took care of the first problem as the U. S. Congress simply took away 7000

acres from the Native Americans (Burton, 1996)! By around 1900 the Gilson Asphaltum Company (now called the American Gilsonite Company) was the major player in Gilsonite and had consolidated several claims; however, "trucking" (used freely since horsing may be a better term as horse-drawn wagons were used) the Gilsonite 80-100 miles to a Utah rail head was not a very viable option. So, as with so many projects, "necessity is the mother of invention" (att. To T. Veblen). The necessity was transportation and the "invention" was the Uintah Railway started in 1903 and completed in 1911 (Fig. 5).



Fig. 5. 2-8-0 #12 engine built by Baldwin in March 1896 for the Florence & Cripple Creek RR. It was bought by the Uintah in 1917. Courtesy of photographer Otto Perry and The Uintah Railway.

The Uinta Basin terminal was at Rainbow near the mines while the southern terminal was at Mack, 22 miles west of Grand Junction, CO on the Rio Grande Western Railway. In between those two points was a three foot wide track (narrow gauge) traversing Baxter Pass (8473 feet) and approximately 63 miles of crookedness, curves and grade. The first 28 miles, coming from the south,

had 36 bridges while some at some of the steepest grades the brakeman could walk faster than the train. On some curves the engineer could shake hands with people in the caboose, or so it was said (The Uintah Railway, no date).



Fig. 6. Earl Douglas, a Carnegie paleontologist, at work in Utah (now Dinosaur National Monument, ca. 1910. Photo from DNM archives.

The Uintah also hauled passengers, freight, mail and livestock but was abandoned in 1939. It also hauled Dinosaur bones Earl Douglas quarried from what is now Dinosaur National Monument but was then shipped to the Carnegie Museum in Pittsburg (Fig.6). Today one can notice a few grades and I have done some hiking along the railway route. In the 1970's spikes associated with the tracks were common; today, rare. Railway buffs can click on the following site and see an actual movie of the train in action: <http://www.youtube.com/watch?v=x7IkujWEpm8>

After abandonment of the railway, Gilsonite was shipped by truck from a new processing plant near Bonanza, UT. In the 1950's a slurry pipeline was built from Bonanza to near Mack, CO and gasoline was distilled from the mineral until the 1970's. Today American Gilsonite Company continues to mine away in the Basin and sells its product for use in "160 products, primarily in dark-colored



Fig. 7. Gilsonite vein near Bonanza, UT showing supporting timber structures. The mined vein at this point is several hundred feet deep. Photo by

printing inks and paints, oil well drilling muds and cements, asphalt modifiers, foundry sands additives and a wide variety of chemical products" (American Gilsonite Company, 2009). If CSMS members travel on U. S. Highway 40 through the Uinta Basin it is a very worthwhile trip to make the detour to Bonanza and the abandoned mines. The deposit is unique and the mines and abandoned facilities are "ghost-like" (Fig.7).

And finally, some rare specimens of a solid hydrocarbon called Ozocerite were mined in the Chinese Wax Mine (Ritzma, 1975) near the far western edge of the Basin (Fig. 8). This strange mineral is a waxy substance and probably arrived in a similar way as

the Gilsonite-- evaporation and desiccation of liquids previously deposited in fractures. The small mine is difficult to locate today and even 20 years ago I was unable to locate specimens.

In summary, when most of us think of hydrocarbons we recall coal, oil and perhaps oil shale. However, there are a few other unique solid hydrocarbons that deserve a place in the collections. And, if you are



Fig. 8. Ozocerite or natural paraffin from the Chinese Wax Mine. Photo courtesy Brigham Young University and Wikipedia.

lucky a nice set of hydrocarbon specimens would include semi-liquid asphalt such as that found in the La Brea Tar Pits in California, and perhaps oil from the famous oil seeps north of Canon City.

*I wish to be
an inspector of volcanoes.
I want to study cloud formations
and memorize the wind
and learn by heart the habits of
the ponderosa pine. Edward Abbey*

REFERENCES CITED

- American Gilsonite Company, 2009: <http://www.americangilsonite.com/>
- Burton, D. K. 1996. A History of Uintah County: Scratching the Surface in Utah Centennial County History Series. Salt Lake City: Utah State Historical Society.
- Gwynn, J.W. 2007. Taking Another Look at Utah's Tar Sand Resources: Utah Geological Survey, Survey Notes, v. 39, no. 1.
- Johnson, W., 2008, Local Issues for Utah Oil Sands: heavyoil.utah.edu/Conference/.../2-Johnson-Local Issues.pdf
- Nickel, E. H. 1995. The Definition of a Mineral: The Canadian Mineralogist, v. 33, no. 3.
- Ritzma, H. R. 1975. The Chinese Wax Mine: A Unique Oil-Impregnated Rock Deposit: Utah Geology v. 2, no. 1.
- The Uintah Railway, 2009: <http://home.bresnan.net/~bpratt15/>
- Tripp, B. T., 2004. Gilsonite: An Unusual Mineral: Utah Geological Survey Notes, v. 36, no. 3.

CSMS KUDOS CORNER

Betty Cain, past editor of the Pick & Pack, has picked up the reins of the Rocky Mountain Federation News and added that "special Betty touch" to make it a great newsletter that will serve all of the RMFMS clubs. For those of you who do not already receive it, please go to www.amfed.org and take a look at Betty's latest efforts. You will not be disappointed!

Mike Nelson, an active member of the Colorado Springs Mineralogical Society, has been appointed to the Bureau of Land Management's Front Range Resource Advisory Council (RAC). Secretary of the Interior Ken Salazar appointed Mike as a representative of dispersed recreation organizations. The RAC provides advice to the BLM's Colorado State Director, the Royal Gorge Field Manager, and the Associate Center Manager for the San Luis Valley Public Lands Center regarding the management of public lands within the agency's jurisdiction. The Royal Gorge Field Office has jurisdiction over all Colorado BLM lands east of the Continental Divide (excluding Jackson County).

A substantial number of CSMS members exhibited their collections at the Annual Show in early December. There were several cases showcasing the minerals of the Pikes Peak region with nice specimens of amazonite and smoky quartz, especially alluvial specimens collected by Jonathon Canneni from local creek beds. **Marge Regal** has collected numerous specimens of beautiful celestine from the San Rafael Swell Utah as well as phrenite from New Mexico. **Bob King** had two great displays including wood crystal models and really nice specimens of hanksite from California. However, the case winner was long-time CSMS member **Roger Pittman**. His case showcased many of the rocks and minerals that make our daily lives cleaner, healthier and convenient.



Roger began collecting industrial minerals about twenty years ago as props for his school talks and now has molded them into a winning case. Roger responded about his case by noting "I relied heavily on information available to anyone from the Mineral Information Institute www.mii.org. My biggest problem was condensing the vast amount of information about each specimen to a tidbit that would fit onto a label. Many of these

minerals could easily have an entire display devoted to its many uses. It is my hope that this display allows the viewer to recognize how important mining is to our current high standard of living".

Walt Wells, new RMFMS CO State Director. As a way to introduce myself, here is some personal information. I am a 24 year Navy retiree and have been to over 80+ countries during my 40 year adventure at sea (also spent over 15 years sailing as a merchant marine).

I have been a rock-hound for over 50 years, am a Rocky Mountain Past President, past 1st VP of the American Federation, and was treasurer of the Canon City Geology Club for nearly 10 years.

There are about 25 rock-hound clubs in Colorado, and I plan on visiting all the clubs on the front range and hope to do the same for the western slope. With my background in the federations, I expect to talk to each club about what the federations are planning for the next year.

PRESIDENT'S CORNER

BY RON YAMIOLKOSKI, CSMS

Another year is upon us, but before I say good bye to 2009 I need to say a few words. First I want to thank everyone who helped out at the Annual Show. The fact that it was not financially as successful as some in the past was not because of the effort of our members who came to help make the Show as good as they could. We were beaten by the weather, the management of the Phil Long Center, and some rather uncooperative neighbors. As a consequence of the two latter items the Board is looking into a change of venue for our Annual Show. I'll have more on that as we get into the year.

When I reflect back on the Show, I can't help but remember the shock that we all shared concerning the death of our good friend **Dave Wilson** (see page 9 for article by Urban Turzi). The fact that his death occurred during our Show allowed many of us to talk and share our thoughts about Dave. He will be missed as will others who left us last year. For those of you wondering about the Faceting Group, Paul Berry has agreed to step in and be the Chair and carry on. Meetings will be held as usual and classes will continue. A special thanks to Paul feels the loss of his good friend as much if not more than all of us.

I also want to thank out 2009 CSMS Officers for their hard work. Some of them have elected to step down: Mike Nelson, Charles Webb, Ann Proctor, Laura Canini, Betty Cain and Bill Cain. I, on behalf of the entire Club, thank them and those who have decided to continue on the Board for their hard work. Returning next year with a new hat will be our 2009 secretary, Bob Germano. Bob will be one of our 2010 Members-at-Large. Also returning will be Drew Malin as the Past President on the Board. Drew can't get off of the Board until I stop running for President.

New to the CSMS Board this year are: Dave Olsen as Vice President. Dave is new to the Club, but has served as an officer for other AFMS clubs. Joining him will Jenifer Beisel as Secretary, Al Zelenak as Treasurer, and Sharon Holte as Member-at-Large. Because of timing and the resignation of Bill and Betty Cain over the Holiday season I had to find some temporary volunteers for two important positions. As a consequence, my son Allen Yamiolkoski will be serving as Membership Chair and his wife Tracey Gleason Yamiolkoski will be serving as Editor of Pick & Pack. They have no desire to retain these positions, but are helping out until someone else from the membership steps up to fill their shoes.

We had a smaller attendance at our annual banquet this year than

last year. I think part of the reason was the economy and part was the fact that unlike last year we did not have a special January issue of the Pick & Pack. Nevertheless, it was a fun evening at the Embassy Suites. Besides the annual swearing in of the new officers, we distributed a number of awards. We also distributed pins for tenure. Since we did not have high attendance I will read off the list of members receiving pins for tenure at the February meeting so that those present can collect them. Try to be there to get your pin.

The evening was concluded with a presentation by Steven Veatch on the work that the Lake George Gem & Mineral Club did re-searching the history of Victor. This presentation covered some fascinating details about the history of Victor and also some wonderful pictures some of the mineral specimens that have been gathered from the mines of Victor. I should point out many of the specimens were from the collection of Bob Carnein.

Enough about what has happened. 2010 is here and we have a lot already brewing. We are already working on Field Trips for this year. There will be some new opportunities in the mix including some multi-day trips out of state. If you are interested in helping out as a Field Trip Leader please let me know and we can explore the where's and how's of the subject. Also, in the works is the Annual Silent Auction scheduled for April this year. Please see the accompanying article in this issue for details. The Rock Fair at WMMI is back again this year. Scheduled for June 26th and 27th it promises to be bigger and better than last year. We'll be getting back to everyone on details of that event in future issues and at the meetings. Some new ideas will be explored this year. As everyone knows, costs continue to go up and CSMS is feeling the strain just like everyone else. Your Board is working on preparing a budget to help guide us in the use of your money. Changes and traditions have impacted how we spend our money and dues don't cover all that we need to do. As a result we are looking at ways to add funds to the treasury without increasing the dues. Ideas that will be explored include the sale of more things at the CSMS Store. The Board has created the position of Store Keeper to coordinate this effort and hopefully develop it as a source of additional funds for the Club. Another effort will be to hold several lotteries during the year featuring either special mineral or fossil items or equipment that would be desirable. Tickets would be sold and the profits would support the treasury. These and other ideas are being explored to make sure our club stays viable and dynamic even in these difficult times.

Finally, last year and the previous year we added greatly to our membership. If you have been around the club for a while grab a hold of one of these new members and show them the ropes. Take care, Yam

RMFMS PRESIDENT'S LETTER

BY BILL SMITH, RMFMS

It has certainly been an interesting winter to date. I believe most of the Rocky Mountain Federation area has had snow, very cold temperatures, and high winds. It sure cut into travel to several different club functions that Janet and I planned to attend. We did make it to The Topeka Gem and Mineral Society, and Stillwater Mineral and Gem Society Christmas parties. It was great to visit with old friends and make many new ones. Janet, Credentials Chair, is having the Credentials for Delegates and Alternates and the Proxy Forms printed in this newsletter. If possible, she would like to have the Credentials for Delegates and Alternates form filled out and mailed to her. Her address is at the bottom of the form. If this is not possible, your delegates may bring the form to the show and turn it in prior to the meeting. If



your club is unable to send delegates to the meeting, I am asking you to fill out the Proxy form and mail it to your state director. Your director's address may be found under the RMFMS Officers and Committee Chairpersons in this newsletter. The Proxy is very important as it will count toward the quorum of clubs necessary to hold a sanctioned meeting. Both forms are also being mailed to your club Secretary.

The Wichita Gem and Mineral Society is working hard to make the RMFMS Convention and show a spectacular event. If you have any interest in minerals this is a must show to attend. As a member of the Wichita Club I have the inside scoop.

I have just purchased a new 14 inch rock saw so must get it up and running.

Until next month.

BOOK REVIEW BY KEVIN WITTE

Colorado Rocks, Minerals, Fossils by Richard M. Pearl. This book is written as a complement to Pearl's early work entitled Colorado Gem Trails and Mineral Guide and is broken down into four parts. The purpose of Colorado Rocks, Minerals, Fossils is to discuss the geology of Colorado's five natural regions and where igneous, sedimentary and metamorphic rocks can be found (Part I). After an introduction to Geology, Pearl has a second section devoted to rocks. For those interested in meteorites, Pearl has a chapter on 45 different meteorite finds in Colorado, with accompanying latitude and longitude of these finds.

After discussing the different types of rocks found in Colorado, Pearl shifts his attention in Part III of his book to minerals of Colorado with a fine history of mineral discovery in Colorado. He covers the booms in gold, silver and uranium among others and lists several fine references for additional information on these mineral discoveries. A chapter on Colorado Minerals covers everything found in Colorado from amazonite to zircon. Pearl has over 25 pages devoted to helping you identify Colorado minerals, including the rare earths.

Part IV of Pearl's book is devoted to fossils. Numerous publications are listed as guides. Pearl advises the reader that the best places to look are quarries, coal mines, stream valleys, road cuts and building excavations in sedimentary formations. Pearl then goes into some detail on fossil plants, invertebrates and vertebrates to include fish, dinosaurs, birds and mammals. If you want to read more about fossilized bear dogs (Amphicyon), titanotheres (similar to rhinos), extinct horses (Eohippus) or mammoths, you'll find some interesting reading at the end of Pearl's book. You may recall Mike Nelson brought in a cast of a titanotheres to our General Assembly meeting last fall.

WMMI HAPPENINGS

Heritage Lecture - History of Victor

Date: February 4, 2010

Lecture begins: 7:00 p.m.

Capacity: Not Set (Available)



Details

The museum welcomes guest speaker **Steven W Veatch** who will discuss the history of Victor, Colorado. Throughout his career as a geologist, Steve Veatch's research has focused on Colorado geology and mining history. He is an adjunct professor of earth science at Emporia State University where he received an MS in Earth Science. Mr. Veatch will share with us his discoveries about how the small mining town of Victor began. Don't miss this special preview. Call 719-488-0880 or email us at RSVP@WMMI.org for your reservation. Space is limited. Heritage Lectures are free and open to the public

Preservation Workshop

Date: February 20, 2010

Time: 10:00 a.m. - 11:30 a.m.

Capacity: Not Set (Available)

Details

Do you have a quilt that has been handed down or treasured piece of fabric you would like to know how to keep preserved? Renowned quilting and textile preservation expert, Mrs. Bobbie Aug will be here to teach you how to care for your textiles properly. Quilting appraisals by appointment after workshop (\$50 for 30min.). Reservations Required

Call (719) 488-0880 or fill out the form below to confirm your reservation. No advance payment necessary Cost: \$10

Exhibit Opening - Don't Get Steamed - It's History!

Date: February 25, 2010

Time: 5:00 p.m. - 7:00 p.m.

Capacity: Not Set (Available)

Details

Please join us for this unique exhibit as we explore the variety of designs and the advancement of steam production during the nineteenth century. Complimentary hors d'oeuvres, beer and wine will be served. Free and open to the public, reservations requested call 719-488-0880.

EXPLORING EARTH SCIENCE AT THE FRONTIERS OF DISCOVERY: A LOCK OF ICE AGE HAIR AIDS SCIENTISTS IN SOLVING A MAMMOTH MYSTERY

BY STEVEN W. VEATCH, CSMS

Unlike dinosaurs, mammoths once coexisted with man. During the Pleistocene epoch, man hunted these prehistoric animals using deadly spear points, carved figurines from their tusks, and left amazing images of these creatures on the walls of caves. The Chauvet Cave in southern France is a masterwork of mammoths and other Ice Age animal art.

Mammoths are extinct. The cause of their extinction is passionately debated by paleontologists. They may have been hunted to extinction; killed off by climate change; destroyed by the impact of an extraterrestrial object 13,000 years ago; or eliminated by some other cause. Mammoths did leave remains, most of it in the frozen ground of northern Canada and northern Russia. These remains provide clues to their disappearance and other unanswered questions.

Today scientists are studying mammoth DNA extracted from fossil hair (Figure 1). When scientists extract DNA from mammoth bone,

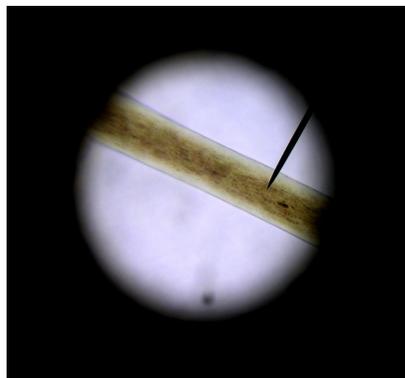


Figure 1. A microphotograph shows the structure of a strand of mammoth hair. Mammoth hair is enclosed in keratin, the hard part of hair. Keratin keeps the DNA in the hair free from contamination. Field of view is 4 mm. S. Veatch

it is frequently contaminated with the products of decomposition (fungi and bacteria). Mammoth hair, enclosed in keratin (the hard part of hair), is a purer source of preserved genetic material. Keratin can be thought of as a kind of biological container that protects DNA and allows hair specimens to be easily cleaned of bacteria and other contaminants. Hair shafts are enriched in mitochondrial DNA, the type of DNA that scientists use to measure the genetic diversity of woolly mammoths.

Researchers at Pennsylvania State University recently extracted DNA from mammoth hair recovered from the icy permafrost of Siberia. These sci-

entists reconstructed most of the genetic sequence of these prehistoric animals using next generation DNA sequencing equipment.

Sequencing the DNA uncovers a message from the past that provides insights into the genetic makeup of mammoths before they went extinct, helps researchers to understand the relationship between different groups of animals, and sheds more light on the evolution of species.

The genetic study at Penn State was significant in that it revealed: 1) woolly mammoths were not one large homogenous group; and 2) did not have much genetic diversity. Locks of Ice Age mammoth hair has aided scientists in solving a mammoth mystery—the nature of their extinction. According to Stephan C. Schuster from at Penn State University and a leader of the research team, "The population was split into two groups, then one of the groups died out 45,000 years ago, long before the first humans began to appear in the region. This discovery is particularly interesting be-

cause it rules out human hunting as a contributing factor, leaving climate change and disease as the most probable causes of extinction."

Because of a warming climate, the permafrost in northern Canada and northern Russia is melting, releasing more specimens from the Ice Age to study. With rapidly receding ice, large amounts of mammoth hair—even hair from an extinct woolly rhino—are becoming available for study. In 2007, this melting world revealed an incredibly well-preserved baby mammoth that was named "Lyuba" by researchers. These new Ice Age fossils and cutting edge scientific techniques are bringing researchers to the frontiers of discovery as they begin to unlock secrets that were once held in the ice.

References:

BBC News (2007, September 27). Mammoth Hair Produces DNA Bounty. Retrieved December 27, 2009 from <http://news.bbc.co.uk/2/hi/science/nature/7016160.stm>

Brown, D. (2008, November 20). Scientists Partially Reconstruct Genome of Extinct Mammoth. *The Washington Post*. Retrieved December 27, 2009 from <http://www.washingtonpost.com/wp-dyn/content/article/2008/11/19/AR2008111902662.html>

Penn State University (2008, June 12). Woolly Mammoth Gene Study Changes Extinction Theory. *Science Daily*. Retrieved December 21, 2009 from <http://www.sciencedaily.com/releases/2008/06/080611161038.htm>

Penn State University (2008, November 20). Woolly-mammoth Genome Sequenced. *Science Daily*. Retrieved December 21, 2009, from

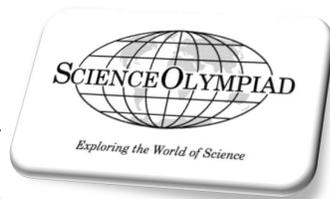
<http://www.sciencedaily.com/releases/2008/11/081119140712.htm>

Than, K. (2007, September 27). Woolly Mammoth Hair Yields Fantastic DNA. *MSNBC Technology and Science*. Retrieved December 27, 2009 from <http://www.msnbc.msn.com/id/21015458/>

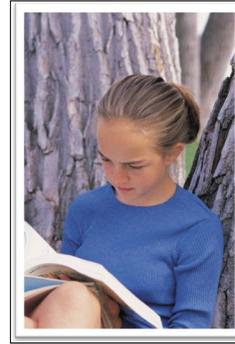
CSMS JUNIOR PROGRAM PARTICIPATES IN THE SCIENCE OLYMPIAD

BY STEVEN W VEATCH, CSMS

The Colorado Springs Mineralogical Society's (CSMS) Junior program instructor, Steven Veatch, will participate in the National Science Olympiad as a mentor and coach for a team of students from Jenkins Middle School in Colorado Springs. A number of these students also attend the CSMS Junior program on the third Thursday of each month. The Jenkins students will be participating in the paleontology (fossil) competition. **The very first statement in the student guide for the Olympiad is to connect with a local rock and mineral club!** Veatch will start immediately on this project and has set a number of dates to work with these students over several months in 2010.



For the past 26 years, Science Olympiad has led a revolution in science education. What began as a grass roots assembly of science teachers is now one of the premiere science competitions in the nation, providing rigorous, standards-based challenges to more than 5,700 teams in 48 states. Science Olympiad's ever



changing event lineup provides a variety of career choices and exposure to practicing scientists and mentors. In the words of a Science Olympiad alumnus, "I consider Science Olympiad the most important and influential activity I participated in during my middle school and high school career."

high school career."

Science Olympiad is a national nonprofit organization dedicated to improving the quality of K-12 science education; increasing male, female, and minority interest in science; creating a technologically literate workforce; and providing recognition for outstanding achievement by both students and teachers. These goals are achieved by participating in Science Olympiad tournaments and non-competitive events, incorporating Science Olympiad into classroom curriculum, and attending teacher training institutes.

Goals of the Science Olympiad

To create a passion for learning science by supporting elementary and secondary Science Olympiad tournaments at building, district, county, state, and national levels with an emphasis on team work and a commitment to excellence.

To improve the quality of K-12 science education throughout the nation by changing the ways science is perceived and the way it is taught (with an emphasis on problem solving and hands on, minds on constructivist learning practices). This goal is accomplished through in-depth core curriculum training workshops and the distribution of curriculum materials.

To celebrate and recognize the outstanding achievement of both students and teachers in the areas of science and technology.

To promote partnerships among businesses, industry, government, and education.

To bring science to life, to show how science works, to emphasize problem solving aspects of science and the understanding of science concepts.



To develop teamwork and cooperative learning strategies among students.

To make science education more exciting so more students will enroll in science courses and engage in other science activities like science reading, fairs, meetings, and field-trips.



CSMS SCHOLARSHIP 2009

BY MICHAEL MITCHELL, CSM

This last summer I participated in the Colorado School of Mines Geophysical Field Camp in which we had the opportunity to spend 2 weeks near Mt. Princeton Hot Springs. We conducted a variety of geophysical surveys in an effort to better characterize the geothermal system and the geological structures that control it. We were fortunate to be joined by a number of students and instructors from Boise State University

and a group from Imperial College, London. Collaborating with all of these different students



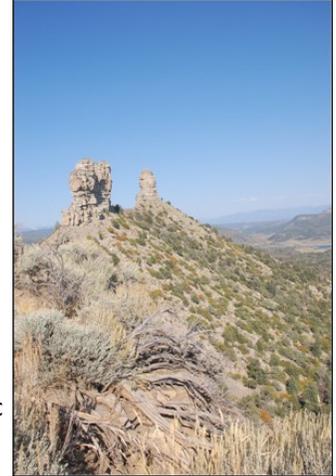
and instructors on this project was an amazing experience. After collecting all of our data we returned to the Colorado School of Mines and spent 2 weeks processing the data and writing our report. The data that we collected can be added to that which has been collected in previous years to develop a more comprehensive understanding of the Upper Arkansas River Valley and the potential geothermal resources present in the region. The Department of Energy is very interested in this particular geothermal system since a project has been proposed to create a geothermal power plant in the region. This project gave all of us invaluable field experience and allowed us to work through the complete cycle of planning, data acquisition, processing,

interpretation, and results presentation.

Following Field Camp I went on a trip to Central/Eastern Europe as my practicum for the McBride Honors Program in Public Affairs. We spent a little over 2 weeks traveling through Austria, Hungary,

Romania, and the Czech Republic. After this portion of the trip I then met up with my parents in Germany and we spent 3 more weeks traveling through the Mosel River valley in Germany, Switzerland, Austria and the Czech Republic. Having completed this amazing trip I wrote a paper on the European Town/Market Square detailing the role it plays in European society and its threatened future. Since I still had a few weeks left over after these two adventures, I went on a 2 week canoe trip with family in the Quetico Provincial Park, Ontario.

This last semester has gone well for me. I truly enjoyed a number of the courses that I took such as Advanced Gravity and Magnetic Methods, Advanced Electrical and Electromagnetic Methods, Physics of the Earth, and I am very excited about the senior design project that I am working on.



For my senior design project I am working with 2 other students on an archeological project at Chimney Rock, CO. In conjunction with the National Forest Service, a number of different geophysical datasets were collected over the region adjoining the SW end of the Great House at Chimney Rock, Colorado. The investigations aim to determine if the foundations for more rooms exist in this region as early archeological sketches indicate. The following types of datasets were collected: magnetic, frequency-domain electromagnetic (FEM), DC resistivity (middle gradient and 2D dipole-dipole), and microgravity. This multipronged approach was used to provide a diverse range of data types, all of which have different physical property sensitivities. Since the expected physical property contrast between the wall foundations and possible room infill has yet to be determined, it is difficult to determine which of the utilized methods will produce the best results. In the case of gravity, only a single line of data was collected over a known wall, to investigate the applicability of microgravity studies to this type of



archeological problem. By determining whether or not additional rooms exist, these geophysical datasets will help archeologists and the National Forest service characterize the extent of the Great House, plan future studies, and set a basis for future geophysical investigations at the site. In our

presentation and paper, we present our geophysical field data, processing and inversion results, interpretation, and recommendations for future investigations.

In addition to my school work I have been applying for a number of graduate programs and fellowships. The institutions that I have applied to include the Colorado School of Mines, the University of Cambridge, and the IDEA League joint MSc in applied geophysics from RWTH Aachen University (Germany), ETH Zurich (Switzerland) and Delft University (Netherlands). As a result of their exemplary reputations and strong geophysics programs I am excited by the future opportunities these institutions have to offer.

At this point I have applied for a number of Fellowships to help pay for graduate school including the Marshall and Churchill Scholarships. At this juncture I have received a formal offer from the Colorado School of Mines and the University of Cambridge to earn a masters degree in geophysics.

Thank you very much for helping to fund my undergraduate education at the Colorado School of Mines. Your generosity and ongoing support for the last four years has helped me pursue my dream of becoming a research geophysicist and professor. Your assistance is sincerely appreciated.

DAVID LEE WILSON

BY URBAN TURZI

The Colorado Springs Mineralogical Society has lost a faithful, hard working, dedicated and multi-faceted friend. On December 5th, 2009, Dave Wilson, peacefully went on his Final Journey.

David was a Life Member of our club. During which time, he established and sustained our Faceting Group. Who knows how many new members he brought into our club with his annual demonstrations of faceting at our Gem and Mineral Shows? I surely don't know but I am sure the number runs well over dozens. Did David ever show you the latest results of his work hot off the presses of his faceting machines? I think that in itself might be a trademark that we will miss about our friend from "Pee-eb-low". "Wow, David, that sure is beautiful. What kind of cut is it and how much does it weigh? What do you mean, it's not a gift for me!"

Dave volunteered his time at his home teaching the basics of gem stone cutting/polishing to countless erstwhile new faceting buffs. He also did the same as a volunteer at the Hancock Senior Center when he help start and taught a lapidary program for the senior residents of our city. Always eager to share his knowledge and skills, David was most devoted to his students....."this is a dop stick', "this is a diamond lap", "Let's start using some fragments of glass and then we'll advance to gem stone rough".

David wasn't always a lapidary geek. He started out collecting pegmatite minerals. CSMS Field trips to Lake George, Mount Antero, Silverton, Ouray, Salida, etc, etc. filled his early days of his interest into the wonderful world of minerals. We won't dwell on his tendency to leave tools and other collecting material behind as that might give the impression that he was sort of an "absent minded professor". Then one day, his father-in-law introduced him to the lapidary arts while visiting in Grand Junction, the childhood home of his wife, Judy. I use to tease him that he only showed an interest into this aspect of our hobby, just to "suck up" to his father-in-law. Well, if the truth were known, David and his father-in-law (i.e. Glen Pryor, who also was a member of our society) were as close as any two men could be...they truly loved each other's company and both shared a passion for the earth sciences.

David made his art/science of faceting both a hobby and a means of income. True to his character as a man, the work was always honest, fair and highly professional. Heck, his customers included local jewelers, silver/gold smiths, individuals as well as some long distance associates. The term "family jewels" has a special meaning to his children, grandchildren and his wife, as Dave always adorned them with some item of jewelry which he shared with them on the occasion of every birthday, anniversary, Christmas, graduation, etc. David did this because, more than anything, he loved his wife and family and he wanted to share his feelings for them in a very special manner.

I know it is trite to say someone who "passes on" will be missed. In Dave's case this is most true. He brought joy, awe, beauty, fascination (or is it facetnation) to all who knew him. How many of us can say, while we were alive, we made a positive difference to the lives of others? David did!

FOSSIL GROUP

BY MIKE NELSON

The CSMS Fossil group met on Tuesday the 15th of December at the Senior Center. Nine members and leader Mike Nelson spent the first session talking about members of the Phylum Bryozoa/Ectoprocta (tiny colonial animals) and Phylum Cnidaria (the corals and their relatives). Jimbo Buck brought a very nice of a group of late Paleozoic horn corals that he had prepared by removing the limestone matrix with acidic vinegar. In addition, Jimbo had collected two extremely rare specimens of corals from the Pierre Formation—the first any member had seen from the local late Cretaceous section. Bob Langraf had a nice collection of both horal corals and colonial corals collected along the flanks of the Uinta Mountains. Steve Miller brought a few of his specimens including a beautiful "chain coral". In the "what is it" category John Harrington had a specimen that Mike and Steve believe is *Durania*, a late Cretaceous bivalve that resembles a large horn coral. During the second session Mike had a presentation on various fossils designated as "State Fossil". The next meeting is scheduled for 19 January, 7:00 p.m., at the Senior Center. Show and Tell: "birds".

UPCOMING SHOWS & EVENTS

Feb. 15-19: CSM GEOLOGY MUSEUM BOOK SALE The Colorado School of Mines (CSM) Geology Museum will host a used book sale February 15-19 from 9-4 daily.

Sun., Feb. 21: Florissant Scientific Society, monthly meeting, Woodland Park, CO; Jay Temple, "Global Climate Change"; all welcome, no charge. Woodland Park Library, 218 E. Midland Ave.

Feb. 26-28: Gem and Mineral Show, Jefferson County Fair Grounds, sponsored by the Denver Gem and Mineral Guild. Free admission! 10-6 Friday and Saturday, 11-5 Sunday. 15200 W. 6th Ave.

Mar. 12: USGS Free GPS, Map, & Compass Class; held in Building 810 on the Denver Federal Center, Lakewood; Map & Compass sessions are in the morning, 9-11:30 a.m., and "Using GPS with Topo Maps" in the afternoon, 12:30-5:00 p.m.; you may sign up for either or both classes.

Free to anyone, but reservations are required and space is limited; call 303-202-4689 or write to gpsworkshops@usgs.gov.

Classes will not always be held every month this year; to check on future dates and for more info., please see <http://www.cr.usgs.gov/gpsworkshops/>

ASK A GEOLOGIST

BY MIKE NELSON, CSMS



Bill writes: *for several years I have been traveling south on I-25 to New Mexico and have always wondered about the butte a few miles north of Walsenburg on the east side of the road. I have always been in a hurry and have not stopped to read the sign. Can you help?*

Bill, I appreciate the question since I too have always been interested in Huerfano Butte, and have stopped to read the sign! My early interest in the Butte started many, many years ago when as a student I became fascinated with the great geological surveys of the American West, the reports of the Wheeler, King, Hayden and Powell expeditions in the 1800's. I poured over the hundreds of pages in the volumes, mentally noting the places that I wanted to visit and observe, especially those reasonably close to Kansas. These writings certainly cemented my career objectives of becoming a geologist and working "out west". And, at my first chance, I traveled on a field trip to see the Spanish Peaks and observe Huerfano Butte. I proudly pointed out to my student colleagues that the landform was illustrated in the great survey tome by F. V. Hayden entitled *The United States Geological and Geographical Survey of the Territories* (Fig. 1). Later in life I became interested in the travels of John Charles Fremont and was pleased to learn that his fifth expedition to the west noted the Butte. Today I often travel down Interstate 25, past the Butte, and wonder what it would have been like to travel with Hayden and/or Fremont. Then reality arrives and wakes me up as I remember the cold and hunger experienced by the groups: *At the killing of this horse, nearly all the men were present. They had not tasted food for nearly two days, and were, consequently, ravenous, and thought of nothing else but satisfying the cravings of hunger. As soon as the horse was slaughtered, without exception, every one cut off a piece, and roasted it at the different camp fires* (Carvalho, 1856).

Huerfano Butte, termed El Huerfano by the early Spanish explorers and The Orphan by some, is located about six miles north of Walsenburg near Exit 59. The elevation of the butte is 6043 feet giving a conspicuous relief of about 100 feet (Fig. 2). Although many people refer to the butte as a volcano (the Colorado state sign calls it "volcanic outcrop") it falls short of that designation. More than likely it is a hypabyssal plug meaning that the magma cooled before it reached the surface of the earth. Readers of earlier editions of the Pick & Pack (Nov.

08, v. 48, #10) might remember that I described Signal Butte north of Woodland Park in this terminology. Penn (1995) has an interesting story for the Butte and described the rocks as a *biotite olivine alkali-gabbro cut by two east-west trending dikes, one a biotite monzonite, the second and smaller one a weathered alkali-lamprophyre*. In more common terms, a gabbro is a dark igneous rock that cooled within the surface of the earth and is the coarse grain equivalent of the extrusive igneous rock known as basalt. The gabbro at Huerfano Butte has significant amounts of the minerals biotite and olivine with the only feldspar being plagioclase rather than an alkali (high in potassium and sodium) form such as microcline or orthoclase. The two dikes are composed of other intrusive igneous rocks, monzonite, (mostly equal parts of plagioclase and orthoclase) and lamprophyre (a weird sort of rock with high amounts of amphibole and feldspar). All this boils down to the fact that the Butte has a major body of coarse grained, dark colored igneous rock with a couple of cross-cutting dikes. All of the rocks cooled below the surface of the earth; therefore, it is not a volcano.

The other interesting story presented by Penn concerns the dates of the rocks. It seems that both the gabbro and the monzonite have radiometric dates of ~25.2 Ma (million years ago). Case closed! But wait a minute. Since the dates for both the plug and the dike are identical it seems likely that during the emplacement of the dike, the radiometric dates for the main gabbro plug were reset and so actually the plug rocks are somewhat older than the dikes (~25.2 Ma) A nice bit of detective work by Penn (1995). The emplacement of Huerfano Butte, as well as other relatives--the Spanish Peaks, Gardner Butte, Goemmer Butte, the Black Hills, Bandito Cone, and the Spanish Peaks Dike System—may be related to the opening of the Rio Grande Rift System on the west side of the Sangre de Cristo Range.

Another interesting story concerning Huerfano Butte can be traced back to the Fifth Expedition of the West led by that intrepid explorer John Charles Fremont. Fremont hired, in August 1853, an American-born Sephardic Jew by the name of Solomon Carvalho to document the travel. I note his religion only as something of historical interest since he often went hungry rather than eat non-kosher food, or porcupine, that he thought looked like pork: *A large porcupine was killed and brought into camp to-day by our Delawares, who placed it on a large fire burning off its quills, leaving a thick hard skin, very like that of a hog. The meat was white, but very fat, it looked very much like pork. My stomach revolted at it, and I sat hungry around our mess, looking at my comrades enjoying it* (Carvalho, 1856).

Carvalho was a master daguerreotypist and was charged with creating a "photographic" record of the expedition. The explorers left Kansas City in September 1853 traveling mostly along the Arkansas River to near Pueblo and thence over the mountains to southern Utah. Carvalho documented the travel but unfortunately his prints (except for one) were destroyed in a fire in 1881. Also, unfortunately Fremont would not allow members of his expedition to compile private diaries, and Fremont himself never wrote up the results (a long story for later). However, Carvalho not only broke the rules and wrote a diary, he also published a book documenting the expedition (1856). In addition, later in life Fremont published his memoirs (1887) and included 30 engraved illustrations of Carvalho's daguerreotypes, including Huerfano Butte (Fig. 3).

In Carvalho's (1857) words, the expedition travelled up the Arkansas River past the ruins of Bent's Old Fort and he questioned *will the progress of civilization ever extend so far in the interior?.. After crossing the Huerfano River, we saw the immense pile of granite rock, which rises perpendicularly to the height of four or five hundred feet, from a perfectly level valley. It appeared like a mammoth sugar loaf, (called the Huerfano Butte). Col. Fremont expressed a desire to have several views of it from different dis-*

tances...

To make a daguerreotype view, generally occupied from one to two hours, the principal part of that time, however, was spent in packing, and reloading the animals. When we came up to the Butte, Mr. Fuller made barometrical observations at its base, and also ascended -to the top to make observations, in order to ascertain its exact height. The calculations have not yet been worked out.

If a railroad is ever built through this valley, I suggest that an equestrian statue of Col. J. C. Fremont, be placed on the summit of the Huerfano Butte; his right hand pointing to California, the land he conquered.

All of these early explorers who came upon and marveled at Huerfano Butte were productive and well-known citizens of the U. S. One can only wonder about their mindset as they trudged up the river valley and noted the little orphan sticking up out of the plains.

Epilogue

Carvalho became seriously ill and left the Fremont party in Parowan, Utah and then traveled to Salt Lake City. While in Salt Lake, he became a popular portrait artist with subjects including Brigham Young, authorities of The Church of Jesus Christ of Latter-day Saints, and other Utah notables. In 1857, Carvalho went on a peace mission with Brigham Young in central Utah where he painted portraits of Native American leaders such as *Wakra, Indian Chief*. His daguerreotypes are the basis for book plates, oil paintings, and wood block prints. *Adventures in the Far West*, a book containing his reflections on Mormon culture, was published in 1857. Biography adapted from Artists of Utah.

John Charles Fremont served with distinction in the Mexican-American War and the U. S. Civil War (attained the rank of Major General), mapped part of the upper Midwest, lead five exploring/surveying expeditions to the American West, served as the Military Governor of California, the U. S. Senator from California, and the Territorial Governor of Arizona. In addition, he was the first presidential candidate of the newly formed Republican Party (losing to James Buchanan).

F. V. Hayden was a surgeon and Chief Medical Officer of the Army of the Shenandoah in the U. S. Civil War. He became the geologist-in-charge of the United States Geological and Geographical Survey of the Territories and mapped vast areas of the American West. Perhaps he is best remembered for using the photographs of Wm. Henry Jackson to help convince Congress to establish Yellowstone As the Nation's first national park.

American history is not something dead and over. It is always alive, always growing, always unfinished (John F. Kennedy).



Fig. 1. "The Huerfano Butte, New Mexico Territory, August 19, 1869" (as seen by the Hayden expedition).



Fig. 2. Huerfano Butte looking east, March 2009. Photo by author.

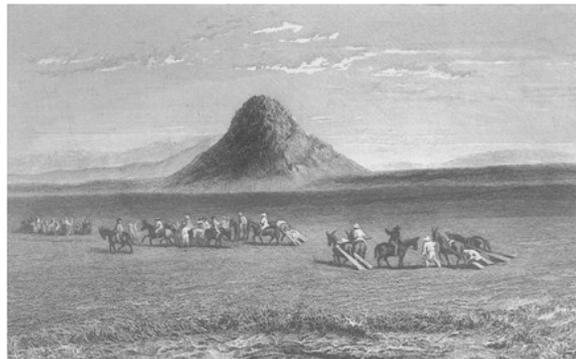


Fig. 3. Huerfano Butte as copied by Fremont (1887) from a daguerreotype by Solomon Navalho.

REFERENCES CITED

Carvalho, S. N., 1856. *Incidents of Travel and Adventure in the Far West; with Col. Fremont's Last Expedition across the Rocky Mountains; Including Three Months' Residence in Utah, and a Perilous Trip Across the Great American Desert to the Pacific*. New York: Derby and Jackson.

Fremont, J. C., 1887, *Memoirs of my Life, 1813-1890*. Together with a *Sketch of the Life of Sen. Benton* by Jesse Benton Fremont. Chicago: Bedford Clarke.

Penn, B. S., 1995, What's the Scoop on Huerfano Butte? [abs.]: American Geophysical Union Abstracts with Programs.

CSMS FIELD TRIPS

Although it is early in the season, some Field Trips for 2010 have already been set. As usual, check the CSMS website (www.csms.us) for the latest list of Field Trips. Also, if you have an idea about a field trip or would like to lead a field trip, contact Yam our Field Trip Chair at ron.yamiolkoski@aecom.com.

April 17

North Table Mountain Zeolites, Flatirons Mineral Club (This is a reciprocal trip with the Boulder Club), Dennis Gertenbach, gertenbach@comcast.net

April 24

Holcim Cement Quarry, Bob Germano, Gliders1@hotmail.com

July 10

April Fools Claim, John Casto, Jcasto@fvc.edu

PERIDOT CLAIM RULES

BY RON YAMIOLKOSKI, CSMS

Another digging season is upon us and many of you will want to visit the CSMS Peridot Claims or join in on one of the upcoming Field Trips to the site. Our claim is on BLM land and in a multi-use area. Local ranchers have leased the land for their stock to graze, so we as claimants need to take special care when we visit the claim for collecting purposes. As a consequence, CSMS has established some rules that we all need to follow so that all of us can continue to enjoy visiting this peridot collecting area.

Peridot Claim Rules & Regulations

- Dig at YOUR OWN RISK, CSMS will not be liable for injuries or loss of property
- Hand Digging Only – No Explosives or Machinery of any kind. All holes must be refilled before leaving the claim. (This claim is in an area of open range and we don't want to break the leg of any cows or horses let alone other members.)
- The Claim is available to club members only and guests as arranged by CSMS sponsored Field Trips.
- Anyone who digs must also be available for reclamation.
- Club members are to call Ronald "Yam" Yamiolkoski at 719-488-5526

or send an e-mail to ron.yamiolkoski@aecom.com or - TheYams@q.com before digging for assessment and access reasons. They should provide the name of everyone going to the claim and their address and phone number.

- Stay on claim indicated by posts with bright red tops – there are several other claims in area.
- Pick up all trash even if it is not yours. (The site is currently clean.)
- No overnight camping.
- Do not dig up any live trees.
- Absolutely NO COMMERCIAL DIGGING!!!
- There are some Indian artifacts in the area. They must be left alone and no collection of these materials is allowed.
- All fences in the area of the claim are to be honored and not destroyed in any way.
- If you find a gate is open it should be left open. If you find a gate closed, open it and close it behind you. In other words all gates should be left as you found them.
- Please stay on the roads as much as possible without blocking the roads for their use by others.
- If you see any damage to the claim posts during your visit correct the problem if possible or let Ronald "Yam" Yamiolkoski know ASAP.
- Follow all US Forest Service & American Federation, rules and regulations. One of the rules is that no vehicles may leave designated roads in the area. (The Forest Rangers know that this is our site and said they may come out to see what we are doing.)

COLLECTING SUGGESTIONS

The Peridot crystals are on the surface and every time it rains more crystals are revealed. The simplest way to collect is to literally crawl around with a small container and a pair of tweezers.

If you want to use sieves you will need two sieves. The top sieve should be either a 1/2" or 1/4" mesh sieve with the bottom sieve being approximately 1/8" mesh. After shaking always check the top sieve for larger crystals before discarding. The bottom sieve will contain the Peridot concentrate. Crystals can be picked out on site or the concentrate can be taken home for picking out at a later date. Any hole dug should be filled and leveled before moving on.

FEBRUARY GENERAL ASSEMBLY MEETING

Bentonite Along Colorado's Front Range

Our February meeting will feature **Jerry Suchan**, a 23 year member of CSMS and an active member in our Fossil Group discussing the bentonite deposits along the Front Range of Colorado. These deposits besides causing problems for home builders are a wonderful source of material from the fossil record. Jerry will discuss specimens found in outcroppings of this material and specific sites that have yielded wonderful fossil treasures.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2 Ground Hogs Day	3	4 7p Board Meeting	5	6
FEBRUARY 2010 — CSMS CALENDAR						
7	8	9 7p Micromounts Group	10	11	12	13 12n-4p Lapidary Group
14 Valentines Day	15 Presidents Day	16 7p Fossil Study Group	17 Ash Wednesday	18 5:15p Junior Group 6:30p Pebble Pups 6:30p Rock Fair Mtg 7:30p Gen Assembly	19	20 12n Jewelry Group
	22	23	24	25 7p Crystal Study Group 7p Faceting Group	26	27 10a-4p Micromounts Group !NEW!
28	3/1	3/2	3/3	3/4 7p Board Meeting	3/5	3/6

REFRESHMENTS FOR GENERAL ASSEMBLY MEETINGS

Feb—Crystal	Mar—Faceting	April—Fossil
May—Jewelry	June—Lapidary	July—Micromounts
Aug—Picnic	Sept—Projects	Oct—Board

Area Code 719

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WEBMASTER	Allen Tyson	268-0775	allentyson@yahoo.com

Locations

Board Meeting: 1st Thursday @ 7:00p, Senior Center, David Olsen: 495-8720

Crystal Study Group: 4th Thursday of the month @ 7:00p, Senior Center; Kerry Burroughs: 634-4576

Faceting Group: 4th Thursday @ 7:00p, Senior Center, Paul Berry, 578-5466

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

Jewelry Group: 3rd Saturday @ 12:00p, 15610 Alta Plaza Circle, Peyton, Bill Arnson, 749-2328

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

Lapidary Group: 2nd Saturday @ 12:00p, 6570 Ramrod Road, Colorado Springs,, Jennifer Bailey, 638-3169

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

Project Group: Meeting time TBD, Ron "Yam" Yamiolkoski

DECEMBER 17TH, 2009 GENERAL ASSEMBLY MINUTE

BY JENNIFER BEISEL, CSMS ACTING SECRETARY

Yam called the December General Assembly meeting to order at 7:28 PM and continued with the salute to the American Flag.

Yam announced to the assembly the death of Dave Wilson, Chair of the Faceting Group and long time friend to many in the club. There was a sharing of memories followed by a moment of silence. As is the custom of CSMS, Dave will be remembered by the donation of an appropriate publication(s) to the Penrose Library.

It was moved and seconded to approve the November 19th, 2009 minutes as they appeared in the Pick & Pack. No changes were forthcoming, so the minutes were approved as issued.

Ann Proctor provided a brief Treasurers Report indicating that the club was solvent.

Several new members introduced themselves to the Assembly. They were: David Alexander and his son Hunter, David Alexander (yes, two new members with the same name), and Melanie Goldman.

As always, Yam introduced our Group Chairs. With the passing of Dave Wilson, Paul Berry said that he would continue on as the Lapidary Chair for the rest of the year.

Yam reported on the progress of the Rock Fair at WMMI. The dates for the 2010 Fair have been set for Saturday June 26th and Sunday June 27th. As can be noted, this will be a two day event and should mean more dealers, and more folks attending. Planning meetings will start in January. Yam went on to present his President's report:

The elections in November did not provide CSMS with a Vice President for 2010. David Olsen, a new member to CSMS but a long time member of other "rock clubs", has agreed to be appointed as the new Vice President. In addition, Betty and Bill Cain, although elected in November, have indicated that they do not wish to serve in 2010. This means that we will need someone to volunteer to be the Membership Secretary and someone else to be the Editor for 2010. These are Board positions and extremely important to the Club. Volunteers should contact Yam as soon as possible. Yam has lined up some temporary volunteers, but they are new members and do not wish to serve on a permanent basis.

Last fall, the RMFMS selected CSMS to host its Annual Show in 2011. We were going to do it at the Phil Long Center, but because of the number of problems that we had with our Show this year, we are in the process of cancelling our contract with the Phil Long Center. The Board will be working on this issue and will resolve the problem for the 2010 and 2011 Shows by April, so that we can report back to the membership and to the RMFMS at their Annual Show in April in Wichita, KS.

The next big event is the Annual Banquet on Thursday, January 21st. There is a bit of confusion over where to send money and reservations for the Banquet. Money should not be sent to Bob Germano, because he will be out of town. Reservations and payments can be made tonight, sent to Mike Nelson or sent to Yam.

The speaker for this year's Banquet is Steven W. Veatch who will talk about the history of Victor.

Mike Nelson provided the following Vice President's report: Mike reinforced the sign-up for the banquet message.

Mike took a moment to praise the efforts of Yam and others in dealing with this year's Annual Show and the Phil Long Center.

Mike reported on his negotiations for use of the Senior Center. First he reported that the Senior Center will be open in 2010, but for fewer hours and with a smaller staff. All meetings will need to be on Tuesdays or Thursdays, which works for most of our groups and for the Board and General Assembly Meetings. Mike was able to negotiate a flat fee of \$1,300 for the year. A motion was made and seconded to pay the \$1,300 to the Senior Center for use of the facilities in 2010. A discussion followed with several points being made and items discussed. Ray Berry asked if it covered all the needs of the subgroups. Mike said that it covered all groups and meetings with the exception of the Crystal Group which meets on Fridays and the Camera Group which may disband. It was pointed out by Mike that we have made donations to the Senior Center in the past, but that this was more than our recent donations. Someone asked if CSMS had the money to cover the cost. The answer to that question caused concern, because this will be a considerable burden to our general Fund and we will need to find ways to cover this additional cost which might include raising the dues. Mike went on to say that the Board is trying to construct a Budget for 2010. This was not necessary in the past, but because of cost increases we need to get a better handle on our funds. There may be other changes including charging participation in subgroups in order to properly fund their activities. Because the Annual Show was not a financial success other changes may be necessary in our Scholarships, Science Fair and other financial aid activities. The question was called and a vote showed none opposed to paying the \$1,300, but some members chose not to vote.

Yam gave a brief report concerning the results of the Annual Show stating that there were many problems that were encountered. On the plus side we had 42 Vendors which was more than at the 2008 Show. The problems were that the vendors took less space so there was less booth space sold. Some of the Vendors did well and some did not, as is always the case. The big problems were our dealings with the management of the Phil Long Center. These ranged from not being able to control the noise being generated by another event in the Center, to a cancellation of the security normally provided by the Phil Long Center (without telling us until the last minute) to a surprise charge for electricity that was not covered by our budget. Add to this some bad weather and the economy and the Show was not a financial success. As a result of all of the problems with the Phil Long Center, CSMS plans to cancel its contract for 2010 and 2011 and look for another venue for future shows. Yam also took a moment to thank all of those who came out to the Phil



Our Staff...

Tracey Yamiolkoski *Editor*

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 TIF, BMP, JPG, or PIC format.

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

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

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Long Center on those three days to help make the Show a solid event, in spite of all of the problems. Many of the Vendors said that we as a club went out of our way to be helpful in spite of the problems that we were having.

Yam as the Field Trip Chair said that he had received a note from Fred Jackson who oversees the Sedalia Copper Mine, thanking the Club for the four tickets to our Annual Show provided to him. He said he came from Salida and enjoyed the Show. Yam also mentioned that planning has already started for the Field trips in 2010 and that we are trying to add some new trips to the list including some out of state trips. More on this will come at a later date.

Ann, in the absence of Membership Secretary Bill Cain, stated that dues for 2010 are due and that members can sign up and pay the dues during the evening.

Yam reminded the General Assembly that there will not be a January issue of the Pick & Pack and that an effort would be made to get out the February issue as soon as contact was made with Betty Cain.

Roger Pittman reminded the group that The WMMI needs volunteers for an event on Saturday, January 9th from 10:00 AM until 5:00 PM. The volunteers will be helping to identify rocks, minerals and fossils brought in by guests to the Museum.

The meeting was adjourned at 7:59 PM to share some refreshments and enjoy the White Buffalo Exchange.

CLASSIFIEDS . . .

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

CSMS T-Shirts, Badges, and Pins are available for sale at each meeting. See Store Keeper, Ann Proctor.

Have You Picked Up Your Membership Award Pin?

If you celebrated a CSMS anniversary in 2007, 2008 or 2009, your year pin award is available from the Membership Secretary, Bill Cain. Last call for 2007 pins.

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Joining the Colorado Springs Mineralogical Society (CSMS)

General Assembly meetings are held the third (3rd) Thursday of each month, except January & August, beginning at 7:30 p.m. at the Colorado Springs Senior Center, 1514 North Hancock Blvd., Colorado Springs, CO. **Visitors are always welcome.**

CSMS also offers Satellite Group meetings that allow more focused attention in specific areas of our members' interests. Our current Satellite Groups consist of the following: 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 13.

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—\$5

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

