THE BULLETIN OF THE COLORADO SPRINGS MINERALOGICAL SOCIETY Published Since 1960

EXPLORING COLORADO SPRINGS GEOLOGY: POPES BLUFF AND UTE VALLEY PARK

BY MIKE NELSON, CSMS

he Colorado Springs area is home to some of the world's most fascinating geological wonders ranging from Pikes Peak (igneous rocks, mostly granitic, emplaces about 1.1 billion years ago) to majestic ridge- and spireforming sandstones of late Paleozoic age (~325-290 million years ago) cropping out in Garden of the Gods Park. Unlike many well known localities, the areas of geological Springs are readily accessible trance to Popes Valley. to most people. The rocks of



interest in and near Colorado

Fig. I. Massive channel sandstone overlying interbedded carbonaceous shales and thin-bedded sandstone. Seen from I-25 near en-

majestic Pikes Peak may be observed along the Pikes Peak Toll Highway, US Hwy 24 to Woodland Park, as well as along numerous secondary roads such as the Old Stagecoach and Gold Camp roads leading to Cripple Creek. Garden of the Gods is a Colorado Springs city park readily accessed by several roads and trails.

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With such world-famous sites available to all, we often overlook interesting localities in our backyard where both the casual observer and the dedicated hiker can get up close and personal with the rocks (it's tough to get personal with the Peak). Virtually every Colorado Springs driver on I-25 has noticed such features as Pulpit Rock and Austin Bluffs, associated with the north-south trending highland of the Palmer Divide. Those traveling Centennial Blvd and/or Vindicator Drive are aware of the massive bluffs and up-turned rocks of Popes Bluff, But, how many people have actually stopped to examine some of these fascinating exposures.

The Popes Bluff Area (PBA), including the adjacent highlands and hills of the Ute Valley Park and the bluffs associated with Popes Valley Creek (along Popes Valley Dr.), is generally bounded by Centennial Blvd on the west, Garden of the Gods Road on the south, Rockrimmon Blvd and Vindicator Drive on the north, and I-25 on the east. The bluffs and valley walls present numerous wellexposed outcrops of the Upper Cretaceous Laramie For-

(See "COS Geology" on pg 4)

MAY 2008 PICK&PACK

Volume 48 Number 4

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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Colorado Springs Mineralogical Society

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: bcain2@earthlink.net or Info@csms.us PO Box 2 Colorado Springs, CO 80901 Phone: (719) 634-8205

The PICK&PACK is published at least ten (10) times per year; 275-300 copies mailed per month (no issues in January or August).

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PRESIDENT'S CORNER

EDITOR

Field Trips! We have a number of trips lined up from now until September and more are being planned. We are very grateful to our CSMS members who are making these trips possible.

CONFIRMED TRIPS TO DATE:

Two trips were held on April 26 (Sat) May 3 (Sat) - Fountain Creek Walk, Drew Malin, 531-7594 advanceone@comcast.net May 10 (Sat) - Geology of Paint Mines Regional Park, Mike Nelson, 522-1608 csrockguy@yahoo.com May 16 (Fri) - Geology of Pulpit Rock, Mike Nelson, 522-1608 csrockguy@yahoo.com June 7 (Sat) - Hartsel Barite, Mike Nelson, 522-1608 csrockguy@yahoo.com June 11 (Wed) - Geology of Red Canyon Open Space, Mike Nelson, 522-1608 csrockguy@yahoo.com July 19 (Sat) - CSMS Claim at Lake George, Ray Berry, 598-7877 rayber@q.com Aug 9 (Sat) - Mt Antero, Amanda Schaak, 568-0373 amandaalece@msn.com Sep 20 (Sat) - Gold Camp Road, Ray Berry, 598-7877 rayber@q.com

Specific info about each trip is available on our website at www.csms.us or call Yam Yamiolkoski 488-5526.

Is your display ready for the June Show and have you signed up to assist? Registration forms are on pages 12 & 13. This is a great opportunity to look, listen, learn, and have a lot of fun! There are many exciting exhibits, vendors, and activities planned!

MAY GENERAL ASSEMBLY PROGRAM

The May program will be presented by Ray Berry, Life Member of CSMS, who always has something interesting and informative to pass along. Join us at 7:30p, May 15, to see what Ray has in store for us.

SHOW MEETING-MAY 15, 6:30P

The 5th show meeting will be held prior to the May General Assembly in the Senior Center lobby. Volunteers are still needed—everyone can do something from entering a display case, assisting for a couple of hours in the Kid's Mine, Silent Auction, Ticket Booth, or Hospitality Booth. Contact Drew Malin.

MEMORY ROCKS

RONALD "YAM" YAMIOLKOSKI, CSMS

I have a "rock" collection, just like most of the member of CSMS. My collection was growing, and it needed to be cataloged. As I looked at the jumble of specimens, I noticed that they fell into three broad categories. The first one was the group of minerals that I had recently collected. They included some barite from Stoneham, some amazonite that I had purchased, and a piece of pyrite that I had won as a door prize at the Flatiron Gem and Mineral Show. I also had some fossils, but these were relatively few in numbers. The third category was the one that really made organizing the collection the most rewarding, I called this category "Memory Rocks".

Over the years, I have received rocks from friends. Most of the time these rocks had no scientific value and were just given to because I liked rocks. In part it was because I would say to people, who were going some place and asked me if I wanted something, to just bring me back a rock. If they remembered to do this, it really would have more meaning than some cheap trinket. Surprisingly, some of my friends and business colleagues took this on as a challenge, and I ended up with some rather interesting pieces. To my knowledge none of the rocks were bought, but (See "Memory Rocks" on pg 5)

AFMS NEWS

BY SHIRLEY LEESON, AFMS PRESIDENT

found out this month (February) what friends are for. Dee & I manned a booth at the Tucson Gem & Mineral Show, along with Wendell and JoAnn Mohr, where among other things we asked for help in getting U.S. Gemstone/Birthstone stamps approved. There was a beautiful display of some of the Smithsonian's most beautiful gemstones to catch the eye



of those passing by. We also had a lot of tumbled stones to pass out to the kids of all ages, and these proved to be good conversation starters.

We shared the booth with Dr. Robert Carlson and Fran Berting who were promoting ALAA. Jon Spunaugle was also there to assist.

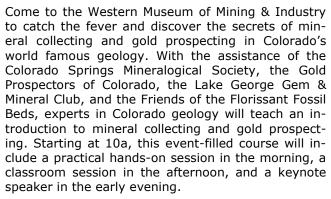
The show started on Thursday, and Steve Weinberger promptly came down with the flu on Friday. Many people at the show were having difficulty with this new stain of the flu. By Saturday evening, I feel into bed and didn't get up till Monday morning. Carolyn Weinberger got sick late Sunday afternoon in the booth, and the hazard crew closed the booth so they could drive her back to the motel.

What a bunch! We had planned to visit the Eastern Federation Show and Convention in Jackson, MS. Could we make it? Dee wasn't feeling very well, and I was very weak. We left Monday along with Carolyn and Steve on our long journey. Steve was still feeling the effects of the flu, but on we went. If Carolyn and Steven hadn't "herded" us along on that trip, making motel reservations, making sure we stopped often enough to rest, etc., I'm sure we wouldn't have made it. Friends are wonderful!

Bob & Kathy Miller, members of the Ad Hoc Committee studying if the contest should continue, have been working hard with the federations. Let me say, I hope that everyone will not just vote an 'up or down' vote but take the time to evaluate if the programs need tweaking and why there aren't as many people entering the various contests. One problem I see is the lack of interest by the recipients in attending the event in their region that promotes the contests. At the Eastern Federation's Editor's Breakfast, there were beautiful awards and stacks of certificates that were not picked up. If you enter the contest, shouldn't you be a part of the end product and be there personally to pick up your award?

WMMI HAPPENINGS





Plans for the morning practical session, which will be conducted on the Museum's beautiful grounds, include the demonstration of placer gold mining equipment, metal detectors, global positioning satel-



May 2-4

McPherson Gem & Mineral Club: contact (620) 241-2433 or (620) 241-7003

May 10-11

Grand Junction Gem, Mineral, and Jewelry Show, First & Main; contact Dave McCollough (970) 523-5443.

May 16-17

35th Annual Rock Swap, sponsored by the Ellinwood, KS Chamber of Commerce; (620) 564-3300

May 21-28

NW, Rocky Mountain, & CA Federations Rockhound Rendezvous in Texas Springs, NV. Details on RMFMS website, www.rmfms. org

Jun 21-22

CSMS 45th Annual Gem & Mineral Show, Phil Long Expo Center, Colorado Springs; contact Drew Malin at Advanceone @comcast.net

Jul 2-6

All Rockhounds Pow Wow Club, Jefferson Co Fairgrounds, Madras, OR; contact Connie Matteson, (253) 475-8433 madraspow wow@hotmail.com

Aug 7-10

Contin-Tail, Buena Vista, CO, FREE TO THE PUBLIC, www. coloradorocks.org, (303) 833-2939 or (720) 928-4194

Sep 25-28

AFMS Show, Humble, TX.

Nov 7-9 RMFMS Show, Tulsa, OK.

Dec 12-14

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

lite systems, map reading and orientation, and mineral collection organization and display.

The afternoon classroom session will cover Pikes Peak regional geology and Colorado gold: Where and what to look for (structural and deposition geology and mineral ID), what tools and equipment to use, mapping applications, and the legalities of mining (how to file a claim, leasing mineral lands, and opportunities associated with county tax sales).

Finally, as part of the Museum's Heritage Lecture Series, a keynote speaker, renowned in this subject field, will lecture starting at 6p.

Members are encouraged to donate \$5 per person, and a \$10 donation is encouraged for all nonmembers. For an additional \$10 per person, a box lunch can be reserved or attendees may bring their own picnic lunch to be enjoyed on the Museum's grounds. Space is limited, so please RSVP to the Museum at (719) 488-0880.

COS GEOLOGY—CONT'D FROM PG 1

mation including abandoned coal mines, rock quar-



Fig. 2. Massive sandstone holding up bluff with Holocene alluvium in foreground. Although difficult to observe, a very large abandoned stone quarry is located in the upper sandstone. At the bottom of the slope is an unknown masonry structure.

Pikeview Quandrangle (Thorson and others, 2001), and readers should consult that publication for greater details.

Rocks of the Laramie Formation, so well exposed in the PBA, represent the final regression of the vast Western Interior Seaway (WIS) that flooded what is now Colorado during much of the Cretaceous Period (~144 to ~65 million years ago). The oldest of the local Fig. 3. Near vertical exposures of carbonaceous shale and Cretaceous rocks, and ones channel sandstone. representing the transgression

of the WIS, are the complex of near shore marine, beach, deltaic, and estuarine sandstones (mostly) of the Dakota Group. These rocks may be best known as the "Dakota Hogback", a prominent topographic feature along much of the eastern flank of the Colorado Front Range. The Graneros Shale, overlying the Dakota, is a dark colored shale representing deepening waters (transgressing seas) and deposits of offshore mud. As the seaway continued to deepen, the limestones and chalks of the Benton and Niobrara formations were deposited. These limey muds were followed by deposition of thousands of feet of marine muds laid down many miles from the shoreline. This mud became known as the Pierre Shale and is present under nearly all of eastern Colorado (Matthews, 2003). Most of these Cretaceous rocks described above are well exposed in or near Garden of the Gods Park and Red Rock Canyon Park. The Pierre Shale can readily be observed in the road cuts along Uintah Street leading west from I-25.

Perhaps 70 million years ago the early Rocky Mountains began to appear, and the WIS started its retreat from Colorado. The beach sands of the regressive seas are known as the Fox Hills Sandstone and are not well exposed near the Bluffs; however,

ries, upturned hogbacks, and large open space perfect for hiking, bird watching, and plant identification. Jon Thorson completed a geologic

map of the



there is an exposure near Centennial Blvd about a mile north of its intersection with Vindicator Drive. Overlying the Fox Hills is the Laramie Formation, described below, while the end of the Cretaceous, and the beginning of the Tertiary (K-T), is marked by deposition of coarse sediments shed off the rising Rocky Mountain Front, the Dawson Formation. These rocks may be observed east of I-25 at the Palmer Divide.

The Laramie Formation (description excerpted from Thorson and other, 2001) is a complex of rocks representing rivers, beaches, channel fillings, coal swamps, flood plains, lagoons, and estuaries—the sort of environments present along a regressing sea. At the entrance of Popes Valley (off Rusina Road), the road cut exposes a nice section of brownish-gray sandy shale and an organic-rich, dark-brown coaly shale; thinner beds of finegrained sandstones also are present (Fig. 1). This sequence was probably deposited between river

> channels. Above this section, and well-exposed on the north side of the valley, is a thick, light gray to light orange, cross-bedded sandstone forming the valley rim (and holding up houses) (Fig. 2). This sandstone and its counterparts represent deposition in a river system and can be seen along Popes Bluff (from Centennial Blvd) and along the highlands and hiking trails within Ute Valley Park.

Once of the more fascinating sections of the Laramie Formation can be observed where Vindicator Drive

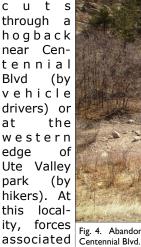




Fig. 4. Abandoned and caved-in coal mine adit as seen from

rising Rocky Mountains have turned the Laramie Formation up to near vertical (Fig. 3), and a prominent hogback, held up by resistant channel sandstones, forms a spectacular topographic feature (Fig. 3). Along most of the hogback, the beds are dipping to the east about 60 degrees. During the late 1900's and early 20th century, the mining of coal was somewhat of a major industry in and near (See "COS Geology on pg 8)

PEBBLE PUPS

BY BETTY CAIN, CSMS

ur Pebble Pups have started to earn their AFMS Future Rockhounds of America merit badges. Pups attending the March meeting earned their first FRA badge, Rocks & Minerals. The badge categories



are: Rocks & Minerals, Earth Resources, Fossils, Lapidary Arts, Collecting, Showmanship, Communication, Field Trips, Leadership, Earth Processes, Earth in Space, Gold Panning & Prospecting, Gemstone Lore & Legend, Stone Age Tools and Art, Rocking on the Computer. These are 15 badges that can be earned. To earn a badge, the Pebble Pupmust complete at least 3 of the designated activities for that particular badge (there are usually 6 activities). When 6 merit badges are completed, the Future Rockhound badge will be awarded. The Pebble Pups will be encouraged to complete as many badges as they can. It would be good to provide vests for T-shirts for the Pups on which to display their badges.

A field trip is planned for May 3rd, Fountain Creek Walk. Wear tennis shoes; we get wet ③. Pups should be accompanied by an adult. Call Steve Veatch for further instructions 748-5010.

Continue working on your exhibit for the Show—June is just around the corner.

MEMORY ROCKS—CONT'D FROM PG 2

many, in their own way, said something about the person. Unfortunately, some of those who gave me the rocks are no longer with us, but each time I look at the rock or hold it in my hand I remember that individual and perhaps a moment or two that we shared together.

If you don't mind, I'd like to share a few memories (in no particular order):

Memory Rock 2-F was given to me by a civil engineer that I worked with for years. Bob Kemp was one of the best technical civil engineers that I ever worked with. He was a 'turn-to' guy, not flashy, but as dependable as they come. Bob was the project manager for the Doha Water Project in the Emirate of Doha. Basically it was a desalinization and potable water storage project back in the late 1970's and early eighties. On one of his trips to Doha, he brought me a small piece of what looks like a milky quartz. Since Bob was not known for doing this kind of thing, I've kept it as a memory of the times we worked together and the engineering insights he shared with me.

Another rock was Memory Rock 2-G. This was from Jim Kearns, an architect in our Denver office, who was working on a hospital project in Egypt. On one of his trips he stopped over in Athens, Greece for a few days. While there, he picked up a small white rock (possibly marble) near the Acropolis at the site of the Temple of Roma and Augustus. A little bit of

history entered my collection.

In the late 1970's and early 1980's, I worked off and on with a planner named Ken O'Kane. Ken was rather a philosophical kind of guy, and someone that was a joy to talk with. Ken picked up a rock in Gearhart, OR and gave it to me. It is naturally polished greenish stone with brown material mixed in. It is probably an agate, but whatever it is, is of no consequence, because it will always remind me of a friend lost.

When I first joined DMJM Harris in 1975, I met Irene DeNoyer. She was an economist in the last stages of her career, and I was one of the younger guys on the staff. Irene was a bit irascible, but she was good at analyzing markets and making sound projects. Over the years, I've lost track of Irene, and my guess is that she may no longer be around. I keep the rock (Memory Rock 3-C) that I received from Irene from her trip to Bryce Canyon National Park.

My wife and I have some friends that we met in the summer of 1968. We talk to them every few weeks on the phone, send cards, and when back east we try to see them. They live in New York, and we've lived out west since 1973. A number of years ago, they took a trip to the Middle East. On the trip, they collected a number of rocks for me. Memory Rock 4-F is a piece of Masada from Israel. It is one of many rocks that keep these good friends in my mind.

One last rock that I need to mention is a piece of the White Cliffs of Dover. My brother-in-law, Dick, collected this for me while on a family vacation. He held his son, Rick, so he could get a fresh piece of the cliff. He didn't want me to have just any piece of the Cliffs for my collection!

I have a few rocks that I have initially placed in my collection as either fossils or minerals, but as I write this, I wonder if they too should become Memory Rocks. They were given to me by friends as I embraced the hobby of rockhounding. They are not necessarily major specimens but more of a help in getting me going. For that reason they carry a dual value, and the memory value is assuredly greater than the specimen dollar value. I think I probably need to review my collection and change a few labels.

Memory Rocks are indeed special. Perhaps as you review your individual collection, you too might want to take the time to pull out those specimens that have a greater sentimental value than dollar value. You may have already done it without realizing that you did.

CSMS & THE SMITHSONIAN INSTITUTE

45TH ANNUAL PIKES PEAK
GEM & MINERAL SHOW

JUNE 21-22, 2008
PHIL LONG EXPO CENTER, COLORADO SPRINGS, CO

CUTTING CHIPS TO CABS

By DENNIS CHAPMAN VIA TOOELE G&M SOCIETY WEBSITE

was once told that we miss out on quite an opportunity just getting big rocks to slab, cut & polish, and ignoring smaller rock chips. You know he was right; with chips you can see just about what you are getting, they are cheap or easily found, and very few bad surprises.

Tools

- Grinder: I like flat disk grinders because you can do all of it on one machine.
- · Old toothbrush to clean wheels.
- Dop Sticks: several different width dowel sticks.
- Dop pot or alcohol lamp
- Dop wax stick
- Jug of water & spray bottle of water

Pick Some Rock Chips



Here I have s o m e varisite and rutilated quartz.

Find the Top of the Stone

Find what you want to be the top, mark it if you like. Look at the sides and see what you will have to cut off for the bottom.

Now Let's Start Cutting

I like to use diamond wheels, and they aren't very expensive on flat disk grinders. Most stones you can start with 100 grit; but I have had to use a light touch at 180, then do most my cutting at 325 on softer stones.

- 100 grit-rough cut (metal wheel with diamond)
- 180 grit-medium cut (metal wheel with diamond)
- 325 grit-light cut to smoothing out (diamond in resin disk) (See "Cabs" on pg 7)



NO NEWSLETTER WAS PUBLISHED FOR APRIL

DIAMONDS FROM OUTER SPACE

FROM THE FLATIRON FACETS, 3/08

ot all diamonds found on earth are the hard, shiny gems we are all familiar with. Carbonado diamonds, found only in Brazil and the Central African Republic, are dark and frothy, full of small bubbles like pumice. Gem diamonds are formed at extremely high temperatures and pressures deep inside the Earth and then are carried to the Earth's surface by explosive volcanoes. However, the frothy nature of carbonado diamonds could not have formed deep inside the Earth and their origins have puzzled geologists.

Stephen Haggerty, a geologist at Florida International University, and his colleagues analyzed the chemical composition of the carbonado diamonds by bouncing infrared light off polished slivers. The resulting chemical signatures did not match those of terrestrial hydrogen and nitrogen, but closely matched those found from particles measured in interstellar space. These findings suggest that carbonado diamonds were created by an exploding star and delivered to Earth by an asteroid billions of years ago.

The age of these diamonds has been dated to between 2.6 billion and 3.8 billion years ago, a time when South America and Africa were joined together. This would explain why these diamonds have only been found in these two continents, thus are probably from a single asteroid impact. The color variation of the carbonado diamonds, from black and gray to green and even red, suggest that they were likely embedded within another rock, and not just one giant carbonado diamond. The host rock has since weathered away, leaving the carbonado diamonds behind.

TIPS & TIDBITS: Cleaning Large Rocks — Manual car washes are good places to clean large rock specimens that are not fragile. The hard spray cleans all nooks and crannies. From Dusty Rocks & others via Broccia 10/97 via 2008 SCRIBE CD. repare Your Hands — Before grinding and sanding cabochons, put cold cream on your hands and rub them until they are dry. This fills the pores and cracks in your fingers. When grinding, sawing, or sanding is completed, the dirt can be washed off easily. Also a good idea for painting. From Gemstar via Breccia 10/97 via 2008 SCRIBE CD ☐ Nature's Rockhounds — One of the least known methods of finding mineral specimens is also one of the easiest and many times one of the most productive. It consists of inspecting and testing the materials which ants, gophers, prairie dogs, moles, etc. bring to the surface. Some ants tunnel down to 15 feet and spread over more than an acre. Excellent gemstones, especially red gemstones, have been found in anthills. From Staurolite 6/97 via Rock Chips 9/97 via 2008 SCRIBE CD Trouble Polishing Peridot? — Try a drop or two of lemon juice or vinegar - it will speed things up. Wash and rinse your laps and other tools with plain water when finished polishing. From Breccia 6/97 via T-Town 9/97via 2008 SCRIBE CD Cleaning Petrified Wood — To remove clay and ferrous oxide from the surface of petrified wood, use MR. CLEAN. (Do not use oxalic acid as it darkens the Specimen.) From Scott Shrader 2/24/98 on the Internet at shrader@scsn.net via rocks-and-fossils@world.std.com via T-Town Rockhound 4/98 via 2008 $\overline{}$ Working Obsidian - When grinding and sanding obsidian, always grind from the center out. otherwise the wheel and sanding belts will pick up tiny chips of glass, that will scratch your stone. From Contact Zone via Gneiss Times 2/98 via News & Views 3/98 via 2008 SCRIBE CD

CABS—CONT'D FROM PG 6

- 600 grit (diamond in resin disk)
- 1200 grit (diamond in resin disk)
- 40,000 grit-diamond paste on felt wheel
- Raybright A or other oxide polish on felt wheel



Start with the 100 grit wheel (180 for softer stones; ones with a hardness of 5, use a light touch to rough it out, then move to 325). Make sure water is dripping near the center of the wheel.

By hand cut the bottom flat, small flat

spot on top, and rough spots on the sides. Make sure you cut around 1/8" on the sides, this will be for the bezel when you set the stone.



Now your shape will start to appear (bottom of stone).



Tips: If you are cutting different types of stones, start with the softest and move to the harder. This will avoid scratching the softer stones.

Clean Disk. It is always best to clean your

wheels when done. This will make cutting easier and avoid scratches if you start with a soft stone next time. Wet wheel, scrub with toothbrush, then spin dry.

Time to Dop. If you use a dop pot, turn it on and let the dop wax melt. When the wax is ready, place the stone (top down) on the flat area of pot and put a drop of water on the stone. When the water evaporates, it is hot enough to take the wax. With one hand, put the one end of the dowel in the wax. Next WET YOUR FINGERS (you will get a good burn if they aren't wet) on the other hand. When you pull the dowel out of the wax, it will want to drip; so quickly move the stick onto the stone and press wax down with WET FINGERS.

If you don't have a dop pot, you will need an alcohol lamp and a way to heat your stone. I use an old iron held upside down in a vise. Place a piece of foil over the flat side. Heat one end of the dop stick with the alcohol and wipe on towel. Heat your stone with a drop of water on the stone. When the drop of

water starts to evaporate, heat stick over lamp. When the wax wants to drip off, wet fingers and apply stick to stone.

Rough Cut on Stick

With the 100 or 180 grit disk, slightly cut the sides in for the bezel.

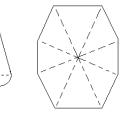


Now comes the confusing part. You will be cutting the dome as if it was a square stone. Once you have done it, it is a very easy method.

Image a line going around your stone from your lowest bezel cut on the side. Now you want to make 4 curved cuts from edge to center. Looking down on the stone, you will see an X on the top. From the

side view, keep checking the curve on the dome.

Now just cut the high area above the bezel edge, working from





edge to center. Removing the lines you just made until you get a nice round dome.

On odd shaped pieces, you might not have the X; just remember where the lines meet is the high spot. Cut from edge to center.

Tip: Use a bright light or sunlight to check your progress. Rough stage, moisten stone and see how the reflective light dances over the stone. The light should move evenly across the stone.

Smoothing & Polishing

This is just a matter of making little scratches out of

big ones, until you don't see anythem more. You may have to keep working the bezel edge and the dome until you get to the shape you want. After the grit, it's just a mat-



ter of checking for flat spots with light and taking out scratches. Eventually you will actually feel the flat spots in the stone through your wrist. I think of it like peeling a potato, at first it will grab and release, but soon it will cut the layer nice and smooth. At 600 grit you can start doing a little rocking and rolling, smoothly rock the stone back and forth and side to side.

The Diamond Paste:

Squeeze 1/4" line of paste on your finger and smear it on the felt pad, 1-3 times (not necessary each time), add just 3-5 drops of water around the wheel. Cut the same way as above. If the paste (See "Cabs" on pg 8)

COS GEOLOGY—cont'd FROM PG 4

Colorado Springs. A number of coal mines operated in the RBA although I have been unable to locate much solid data on production. Thorson and others (2001) produced a map showing perhaps a dozen known mines in the PBA. Several old, but caved in, adits are visible along Popes Valley Drive and in the adjacent stream valley to the north. A very visible mine dump is easily seen about 1000 yards south of the Vindicator Drive-Centennial Blvd intersection (Fig. 4). The last mine to shut down in the PBA was the Pikeview Mine (total production of 8,738,174 tons) in 1957 and located off Delmonico Drive immediately north of Rockrimmon Blvd (Thorson and others, 2001). Also of interest is the fact that an oil well was drilled in the highlands near the mouth of Popes Valley. The Rusina Ranch No. 1, spudded in 1959, was abandoned at a depth of 485 feet. I was unable to locate information about a possible pay zone but perhaps operators were aiming for a sand zone in the Pierre Shale. At any rate, the well was abandoned early.

Although fossils, including plants, dinosaurs, fish, turtles, amphibians, and mammals have been found at a number of Colorado localities, I am unaware of "good" body fossils in the PBA. The carbonaceous shales of the Laramie Formation contain plant fragments, and many sandstones contain macerated bones and plants; however, I have been unable to locate collectable specimens. Johnson (2002) noted that hard-to-identify dinosaur tracks are present in the area. What the observer will notice, however, are numerous pseudo-fossils (such as nodules, concretions, and differential weathering), animal burrows, and sedimentary structures.

Ute Valley Park may be accessed from a parking lot off Vindicator Drive or from a trailhead off upper Popes Valley Drive. The best way to observe the geology is to take a stroll in the Park. One never knows what interesting features will show up (Fig. 5).

Sources Cited

Johnson, K.R., Ancient Denvers, 2002. http://www.dmns.org/main/minisites/ancientDenvers/index.html

Matthews, V., Lynn, K.K., and Fox, B., editors. *Messages in Stone: Colorado's Colorful Geology*, Denver: Colorado Geological Survey, 2003.

Thorson, J.P., Carroll, C.J., and Morgan, M.L., *Geologic Map of the Pikeview Quadrangel, El Paso County, Colorado*. Denver: Colorado Geological Survey, Open-File Map and Report 01-3, 2001.

FOUNTAIN CREEK WALK FIELD TRIP—MAY 3, 10A

Hanson Nature Park, Fountain, CO, Drew Malin leading; 531-7594, advanceone@comcast.net.



Fig.5. Interesting occurrence of a honeybee nest (complete with honey comb) on a south facing sandstone in Popes Valley. In most cases bee nests are surrounded by protection from the elements, such as a hollow tree. In this case the sun warms the sandstone and radiant heat keeps the bees warm throughout the year.

CABS—CONT'D FROM PG 7

sticks to the stone like toothpaste, it needs a light mist of water to thin it up. If it comes up like specks in water, it is too think; just keep working the stone and it will thicken.

Oxide Polish: Polishing the stone helps seal and preserve the stone. Spray a mist of water on the felt wheel until damp. Work in a small pinch of polish (not necessary each time). You work the stone just like the diamond paste; if the past sticks to the stone like toothpaste, it needs a light mist of water to thin it up. If it comes up like specks in water, it is too think; just keep working the stone and it will thicken.

Taking the Stone off the Stick

Just pop it in the freezer for 10-20 minutes, and you can just add pressure to the bottom—it will pop off. While the stone is still cold, you can pick off any dop wax that is left.

Happy Cutting!!!

References:

Gene Chapman (cutting technique of my father)

Phil Salm

And many others



MEDITERRANEAN IS AUGUST PICNIC

THEME—Bring a dish to share from your favorite country! Lots to choose from: Egypt, France, Greece, Israel, Italy, Morocco, Spain, Turkey, etc. Picnic Committee volunteers needed. See Yam.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	May 2008 — C	SMS CALENDAR				
				1	2	3
				7p Board Meeting		10a Fountain Creek Field Trip 12n Lapidary Group
4	5 Cinco de Mayo	6	7	8	9 7:30p Crystal Group	10 9:30a Paint Mines Field Trip
11 Mother's Day	12	13 7p Micromounts	14	15 6:30p Show Meeting 6:30p Pebble Pups 7:30p General Assembly Meeting	16 8p Pulpit Rock Field Trip	17 10a New Member Orientation-WMMI 12n Jewelry Group
18	19	20	21	22 7p Faceting Group	23	24
25	26 MEMORIAL	27 7:30p Camera Group	28	29	30	31 7:45a Dinosaur Ridge Geology Trip

"Action is the foundational key to success." - Pablo Picasso

Locations

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

<u>Camera Club</u>: 4th Tuesday @ 7:30p Senior Center, *Roger Pittman: 683-2603*

<u>Crystal Study Group</u>: 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: Re-org meeting April 28 7:30p at 879 Caribou Circle, Monument, 488-5526

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*

REFRESHMENTS FOR GENERAL ASSEMBLY MEETINGS

May—Faceting June—Board July—Lapidary
Aug—**Picnic** Sep—Camera Oct—Micromounts
Nov—Fossils Dec—**Everyone**

President	Rick Copeland	322-7915	Rick.Copeland@covad.com
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PEBBLE PUPS	Steven Veatch	748-5010	Steven.Veatch@gmail.com
WEBMASTER	Allen Tyson	268-0775	allentyson@yahoo.com

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GENERAL ASSEMBLY MINUTES

APRIL 17, 2008 By JOHN CASTO, SECRETARY

he meeting was called to order by President Rick Copeland. The minutes from the March meeting were approved at published in the Pick&Pack.

Welcome to new members Shelia Dobler and Becky Cooper; we're glad to have you join us!

Show Report—Drew Malin. Drew has sign-up sheets for everything from setting up on Friday and especially breaking down on Sunday. Please check with him on times and dates and why type of help is needed. If members help for at least 2 hours, they get in for free! We have 4 display cases and more available; sign up to set up a case even if just

Crystal Group-May is the last meeting until September.

Fossil Group—Yam Yamiolkoski is hosting a meeting at his house April 28 at 7pm, and the new leader and meeting location will be determined.

Lapidary-No meeting in May due to Creek Walk field trip. Summer meetings will be held at Rick Copeland's house.

Camera Club-Would like it noted they have cookies at the meetings.

Jewelry Group—Meeting in May will be held at Bill Arnson's house.

Micromount Group—They have cookies at their meetings also!

Field Trips—There are several field trips coming up, and they are listed on the CSMS web site and upcoming Pick&Packs. Be sure to check both places often. We have both geological and field collecting activities planned and more in the planning stages. We are always looking for people willing to lead field trips. Contact Yam Yamiolkoski or Brent Williams for more information.

Faceting Group—Meeting as normal.

Treasurer's Report—Ann Proctor reports CSMS funds as follows: Show Fund Account \$10,007.37; General Fund Account \$4,228.85; Workshop Fund Account \$1,264.77.

The meeting adjourned at 8:40pm for refreshments, and then Jack Thompson gave a presentation about "Oddball" Quartz Formations.

Membership Secretary's Note:

We have received new members applications from Jennifer Cooper, Paul Leskinen, and Jackie Malee and a renewal from Wanda Ellsworth since the April General Assembly Meeting.

Don't forget the New Member Orientation Class on 5/17 at WMMI and the Dinosaur Ridge Geology Trip on 5/31 (Cripple Creek Parks, 689-3514).

SNOW BIRDS' TRAVELS

BY BOB BERNARD, CSMS

his winter my wife, Barbara, and I started out in Quartzsite, AR. The Desert Gardens Rock Show was held there on January 4th.

The number of dealers was down again this year. Every year it has been getting smaller.

To pass the night time, I would play music at least 4 times a week in different jams. There are jams each afternoon and evening every day of the week.

We then went to Tucson for a month. The second day we were there, I met Sam Brown, an old-time

fiddler with the Southwest Old Time Fiddlers Association.

We were off and running and went to Fiddlers jams twice a week and the Desert Bluegrass Association jams once a week. We also had special gigs at the old Tucson Fort and two other venues.

We attended the Tucson Rock Show with Jim CSMS rockhound, Bob Bernard, Bushnell—it was blast. Until you see the



a 'rocks' the winter away.

Tucson Show, the vastness of it will escape you. It is impossible to see the entire show.

We visited some friends in Deming, NM for a week and moved on to New Braunfels, TX for a month. It was more relaxed there.

I built a pandolin (a mandolin with a cake pan for the body) in the Senior Center wood shop and faceted some stones in the craft room. wanted to hear the pandolin, and they asked me to do a 1½-hour show on Saturday night after the Winter Texans dinner. I had met a barber shop quartet that was practicing for competition, and they agreed to do some songs for the experience. Ms. Marilyn Windschitl sang harmony with me on a couple of songs. It all went really well, and I was asked for an encore next year.

There was also music at the Senior Center two times, but I was about played out by then.

Not much for rocks in Texas, and so we came home.

Aloha!

We loved being members of the CSMS! In January we moved to O'ahu and are looking for a club here on the island, so we will not be renewing our membership. Thank you for all the wonderful memories we have of rockhounding in Colorado! Frank & Cornelia Hice and Family

Regular meetings of various groups

Café Scientigique 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://cafescicolorado.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://chinaresources.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

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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. See Ann Proctor, Treasurer, 291-9010 annmgmt@msn.com



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The Colorado Springs Mineralogical Society June 21 & 22, 2008

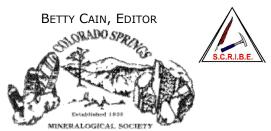
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Joining the Colorado Springs Mineralogical Society (CSMS)

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. <u>Visitors are always welcome</u>.

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 9.

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.