



PICK & PACK

THE BULLETIN OF THE COLORADO SPRINGS MINERALOGICAL SOCIETY Published Since 1960

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CSMS is an incorporated nonprofit organization with these goals:

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

Home Diamond Synthesis

Secret process revealed for the first time!

Steve Russell

A fascinating event happened while I was attending the Tucson Show last year. I was in the room of Brazilian mineral dealer Joaquin Stick, and noticed a number of very nice, rather large diamond crystals for sale. When I inquired about them, I was introduced to an elderly gentleman sitting in the corner. This fascinating man was Professor Ilmeno Rutille, originally a professor of

chemistry at the University of Bologna in Italy, but who had spent most of his professional career working for General Electric in their Diamond Synthesis Lab. Professor Rutille had synthesized all the diamond specimens I had seen in a laboratory in his home!

I spent a very pleasant hour talking to this amazing man, and when I returned

See *Diamonds* on page 4

CURRENT EVENTS

How an Obscure Mineral Provided a Vital Clue to Martian Water

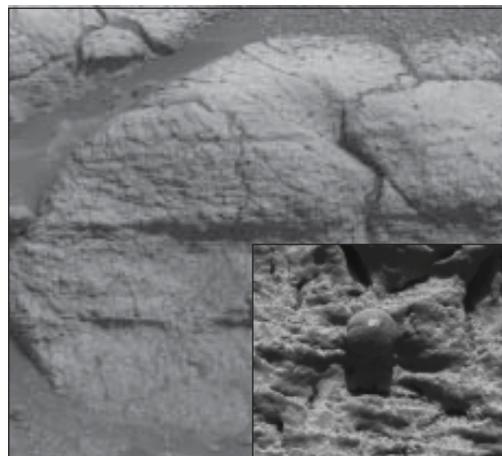
Blaine P. Friedlander Jr.

On the southeastern coast of Spain, the Sierra Almagrera range provides a bounty for geologists. One area, in particular, the Jaroso ravine, has yielded a huge catalog of unusual minerals. Among them is one that will be forever tied to Martian history.

In 1852 a German mineralogist discovered an unusual amber-yellow-brown mineral made of potassium iron sulfate hydroxide in Jaroso. He named the mineral jarosite.

Since then the world has had little use for jarosite. Until now.

On Tuesday, March 2, Cornell's Steven Squyres, principal investigator on the twin-rover Mars mission, told a press briefing at NASA headquarters in Washington, D.C., that his team had found jarosite on Mars. Since the mineral only forms in dilute sulfuric acid in ground water, the discovery was a clear indication that water once abounded in the area around the rover Opportunity's landing site in a crater on a vast plain called Meridiani Planum. This modern voyage of discovery started in NASA's Jet Propulsion Laboratory (JPL)



These images, taken by cameras on the Mars rover Opportunity, show a close-up of the rock outcrop dubbed "El Capitan," located in the rover's landing site, a crater at Meridiani Planum. Inset, a detail of the rock showing one of the tiny spherules, nicknamed "blueberries." NASA/JPL

on Jan. 25, the day following the rover Opportunity's landing, when Jim Bell,

See *Jarosite* on page 5

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Drew Malin	Vice President
Sidney Benda	Secretary
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Founded in 1936



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PICK & PACK

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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 E-mail it. Format does not matter. All submissions are welcomed.

DEADLINE for items to be included in the next month's issue is the fourth Friday of every month. To submit an item, please use the following:

Photos:

For hardcopy photos, mail to the address below or bring them to the General Assembly Meeting. All photos remain the property of the submitter. All photos will be returned. Electronic photos should be submitted at resolutions above 200 dpi in TIFF or PICT format. E-mail them to the address below.

Articles:

Mail, E-mail, or fax to the address and numbers below. ALL FORMATS ARE WELCOMED.

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PRESIDENT'S CORNER

Time to Think About Field Trips

A call for suggestions

Robert Landgraf



These recent warm days should have everyone thinking about field trips. Field trips are not just to dig minerals but to be with experienced people who help us understand the geology and history of the

areas we are digging in and help us understand the mineral combinations that we are looking for. I want to thank Roger Pittman for consenting to be our Field Trip Chairman or Coordinator. Roger needs your suggestions and help. He wants to know what areas that you have heard about that you would like to go to. He also needs people who have been to specific places to volunteer to lead a group.

Also, don't forget, the various satellite

groups run additional field trips that are only advertised within the specific satellite group. The satellite groups will generally have fewer participants so as to give more attention to each individual on the dig. I would like the leaders of the satellite groups to consider opening one of their special field trips to the general membership to help acquaint people with the different satellite groups. That just means announcing one of your trips in the newsletter for all to be aware of it. I would encourage the general membership to attend different satellite groups to see what they do. Some of them meet in different members' homes, which allows people to view the many wonderful collections in our club.

Getting out on field trips is one of the best ways to get to know your fellow club members. It's a great family activity and, on most trips, even the family dog can join in the outing. 🐕

CSMS History Program

April's General Assembly

Past Presidents Ray Berry and Brenda Hawley have been accumulating historical information of the Colorado Springs Mineralogical Society over some years past. This has included digitally

scanning photos from the CSMS files at Penrose Library, Pioneers Museum and other sources and identifying these photos. Ray has put together a digital slide program called **CSMS Through The Years™**.



CSMS fieldtrip to the Gem Mine circa 1936

As Ray mentioned at the 2004 Annual Banquet, "This is not just **any** rock club; it is the Colorado Springs Mineralogical Society, one of the most prestigious mineral societies in the country, with many nationally-and internationally-known people that figure in both our hobby and professional mineralogy." Most new members and many older members have no idea who these people were! **Be sure to set aside time for this meeting.**

Also, remember that history is made every day, and photos you may have taken in the past of club field trips, shows, etc., can be a part of our continuing history. With today's technology, these photos can be scanned and added to the computer database for future generations. If you have sharp, in focus pictures, even if faded,

Ray can scan them at his home while you wait. It only takes a few moments, and you can keep the originals! The scanned photos will then be saved on discs and given to the club. Ask Ray for a convenient time for doing this. 

APRIL 2004 General Assembly Thursday April 15, 2004, 7:30

Colorado Springs Senior Center
1514 North Hancock Blvd, C/S, CO.

April's Refreshments courtesy:
The Micromount Group

Minutes...

March 18, 2004

Drew Malin called the meeting to order at 7:30 p.m. and introduced winners of the Science Fair, who presented their projects.

Minutes from previous general meeting were accepted after correction regarding date of the show.

Treasurer's Report: Jim Bushnell reported on balances of the show fund and general fund.

Satellite Groups: Camera, Crystal, Faceting, Fossil, Lapidary and Silversmithing group leaders announced dates, meeting locations and program for next month. The Silversmithing group changes its name to 'Jewelry' group. The Lapidary group meeting is moved to inventory and equipment repair workshop on Saturday, April 3rd.

Show Report:

- 24 dealers made commitment to participate.
- William Kappele agreed to be guest speaker.
- The floor area is estimated to be about twice the size of the previous show. Gold panning and gem mine for children got confirmed as program items - CSMS needs more volunteers to help with these activities.
- Equipment inventory and repair meeting is scheduled on April 3 either at Western Museum of Mining or at Pittman's.
- Boy scouts or girl scouts in uniform will get free admittance.

Field Trips:

- Portland Limestone Quarry tentatively scheduled on April 17, 2004
- Glenwood Springs caves on Memorial day weekend may need new leader.
- Fossil collecting between Woodland Park and Deckers on May 2.

Old Business:

- Ray Berry informed about ongoing project on documenting history of CSMS. He has done extensive work scanning and archiving old photos and library documents. If any club member has materials to contribute to this project, please contact Ray.

New Members: Six new members are interested in joining CSMS.

The general meeting was adjourned at 8:30 P.M., followed by program on Tucson Show by Jack Thompson.

March's General Assembly

There was a great turnout for the March General Assembly with more than 60 members present. Included in this group were our newest members - the winners of the Pikes Peak Regional Science fair (see below). The three students proudly displayed their winning projects and fielded any questions prior to the meeting.

Show chairman Manny Sanchez gave a detailed report on the progress concerning the 2004 CSMS show. The popular Mr. Bones, an animated T-rex skeleton, has confirmed his appearance. Also, since we are at a larger venue, we will be welcoming back the Colorado Gold Panners who will be offering hands-on panning lessons. Anyone that made it to the 2003 Denver show can attest to how popular this display is with all age groups.

The evening was wrapped up with Jack Thompson entertaining the group with a slide presentation from his trip to the 2004 Tucson show.

Science Fair

The CSMS participated again this year in the judging of the Pikes Peak Regional Science Fair, which is held annually at the University of Colorado at Colorado Springs. This year's judges were Drew Malin, Casey

Malin, and Cindy Bronner. Each year the CSMS grants first, second, and third place awards for projects related to earth science. First place receives \$100, second place garners \$50, and third place earns \$25. All winners also receive a one-year membership to the Colorado Springs Mineralogical Society.

This year's first place winner, Stephen Cuttler, won with his project titled "Refraction action with minerals." Ben Busby, the second place winner, displayed his project titled "The effects of calcium and magnesium chlorides on grass." Third place was awarded to Bethany Brewer for her display, "The effect of pH on borax crystallization." All three winners were kind enough to display their winning entries at the CSMS March General Assembly.

To the winners, we say welcome and encourage you to join us on some of this year's field trips. We are sure if you participate in even one field trip, you will find that the free membership was actually worth more than the monetary sum you received.

General Assembly Refreshments Program

For those of you who attended the March general assembly, you were probably disappointed by the lack of refreshments. We can't let that happen again.

The refreshments work on a rotation of the satellite groups. This means that each month the members of the chosen satellite group are asked to bring some cookies or something to drink. In each Pick and Pack on page 2, you will find a write-up for the next month's meeting. At the end of that article will be listed the satellite group whose members are asked to bring a snack to the next general assembly. This information will also be e-mailed to all members the week prior to the meeting. If you are a member of the listed group, we ask that you please participate. Even if you are a member of more than one satellite group, please try to participate each time.

April	Micromounts
May	Lapidary Goup
June	Jewelry Group
July	Fossil Study Group
August	No Meeting
September	Faceting Group
October	Crystal Group
November	Camera Group
December	Everyone

It is not too late to pay your dues!

Diamonds continued from page 1

home, I began an E-mail correspondence with him. I'm afraid I pestered him for several months with questions about how these diamond crystals were grown, and finally he relented, saying he would show me the process if I would travel to his home laboratory in the mountains near Oakley, Kansas.

It was late May when I arrived at Prof. Rutille's home, and after introducing me to his wife, he took me to his laboratory located behind his garage. I was immediately struck by the lack of large, sophisticated equipment one would expect to find in a lab capable of synthesizing diamonds.

I asked Prof. Rutille where he made his diamonds, as there was not a single piece of technical equipment in the place.

"That is exactly why I asked you here," he replied, "Please sit down," and he pointed to two chairs against the wall. We sat down, and he handed me some papers. "It's all explained here," he said. While I looked at the papers, Prof. Rutille told a fascinating story.

The early attempts to synthesize diamonds at the GE labs were a trial and error effort that did not succeed until it was discovered that with existing equipment, a catalyst was necessary to lower the temperature and pressure at which diamonds form. An amino acid present in animal muscle and fat tissue turned out to be the key. This was discovered when a technician was preparing samples to go into the furnace while eating a ham sandwich. A bit of ham contaminated the sample, but the technician went ahead with the test. The result was a diamond—small and very poor quality—but a diamond. This amino acid catalyst has been kept a secret ever since.

The story continues in the 1980's, when Prof. Rutille began work on a project in the GE Synthetic Stones Lab to synthesize elbaite tourmaline. The scientists added various metals to the chemical structure to change the color of the crystals. The results were disappointing, except in the case of copper. Adding copper produced a "cuprian elbaite" of a beautiful, but rather unbelievable, teal blue color. Further research was discontinued because his superiors felt that gems cut from this material looked "fake." Prof. Rutille kept about half of the few hundred crystals produced, sending the rest to a mineral dealer friend in Paraiba, Brazil.

Prof. Rutille wondered if copper might also produce a blue color in diamonds, and began a series of tests. The attempt to produce blue diamonds failed, but he found that the copper even more drastically reduced the temperature and pressure necessary to produce a diamond. In fact, a pressure of 650 pounds per square inch and a temperature of 112 degrees Fahrenheit were all that was necessary. This could be produced in a home laboratory! Prof. Rutille began to produce his own diamonds in his home lab, and those were the crystals I saw in Tucson.

Prof. Rutille assured me that he would have grown rich selling diamonds and never would have told me the details, of how these diamonds were made, if he had not been threatened by agents from GE and the De Beers Corporation a few weeks before my visit. He was so angry with his former employer that he asked me to publish his findings so that people everywhere could reproduce his results. I agreed, and below are instructions for synthesizing diamonds in your home or garage!

Continued on next page

Materials list:

- One piece of copper pipe, 3/4 inch diameter, 1.5 inches long (available at any home improvement store)
- Two copper end caps for 3/4 inch pipe
- One charcoal briquette (without lighter fluid)
- Masking tape
- Gram scale
- One slice lunchmeat
- Large heavy-duty vice
- Blow dryer (1500 watts)
- Accurate ruler



Preparing the Sample

Begin by placing one end cap on one end of the 1.5 inch copper pipe (the pipe and end caps are available at any home improvement center). Into the open end of the pipe, place 1.75 grams of the lunchmeat. This will provide the amino acid catalyst. Using a hammer or other tool, crumble the charcoal briquette into pieces small enough to fit into the copper pipe. Add exactly 4.2 grams of charcoal briquette, packing lightly with your finger (Photo 2). Note: DO NOT use briquettes with lighter fluid in them as this will contaminate the sample and cause a risk of fire or explosion! Add another 1.75 grams of lunchmeat on top of the packed charcoal briquette. Place the other end cap on the open end of the copper pipe, creating an enclosed container. Cut two round pieces of masking tape to fit the ends of the end caps, and place one piece of tape on each end cap (this will insulate the copper container from the jaws of the vice) (Photo 3).

Creating the Diamond

Note: Gloves and safety glasses should be worn during this step of the procedure!

Place the copper container in the jaws of a large, heavy duty vice, one end cap against each jaw of the vice and tighten enough to hold the container in place

Jarosite

continued from page 1

Cornell associate professor of astronomy and the scientist in charge of the two rovers' panoramic cameras, received the rover's first color image of the crater in which it had landed.

When the image appeared on television monitors in JPL's von Karman auditorium at 2 a.m., Squyres reacted by saying, "This is the first outcrop ever found on Mars." Bedrock outcrops, he pointed out, usually provide strong clues to geologic history. Squyres was prophetic. Beneath the dusty veneer and the rocky crust, jarosite awaited.

For the next few weeks, Opportunity cruised around the crater while JPL scientists and engineers tested the rover's platoon of Cornell-built and Cornell-partnered geologic tools.

By Feb. 20, or Martian day (sol) 27, the rover examined the outcrop, now dubbed El Capitan, with its panoramic cameras, miniature thermal emission spectrometer

(Photo 4). Lay an accurate ruler across the top of the vice. It is necessary to close the vice one eighth of an inch to produce the necessary pressure. First, the container must be heated. Using the blow dryer on "high" setting, heat the container for a minimum of two minutes. Now, while continuing to heat the container, begin to close the vice, slowly. Some effort will be required, but continue closing the vice until you have collapsed the container one eighth of an inch. Continue to heat the container with the blow dryer for a minimum of four more minutes. Don't be surprised if you feel yourself getting hungry—it does smell like barbeque! After four minutes, the blow dryer may be turned off. Allow the container to cool for 30 minutes. Using a hacksaw, cut the container in half, and remove your diamond! (See Photo 5)

I know this leaves one question: What type of lunch-meat to use? I have experimented with several types, and I achieved my best results using pure baloney. 🍖

The author, Steve Russell, has been a member of the CSMS since 1994. If you have any further questions concerning this article you can contact the author at:

sprussell@worldnet.att.net

Editor's Note: If you are excited about the potential that the above article details, I recommend you reevaluate the article. It is April, after all.

(Mini-TES) and microscopic imager.

The following day Opportunity placed its Mössbauer spectrometer and its alpha particle X-ray spectrometer (APXS) on the rock surface to assess mineral presence. Opportunity performed its first rock abrasion tool (RAT) operation on Feb. 24 on a rock target known as McKittrick Middle Rat at El Capitan. The tool shaved the rock over a period of two hours, grinding into a total depth of about 4 millimeters (0.16 inches).

After the abrasion tool retracted, the scientists took microscopic images of the hole, and the APXS was later pointed inside the rock.

"Finding evidence of water hasn't been an 'Aha!' moment," said Bell. "It's been a series of data sets building in our minds. The measurements trickle in and we wait for data. Then we interpret the data, throw ideas around, reach a consensus and we get a snapshot of the consensus."

During the Martian morning hours of

Continued on next page



Photo 2



Photo 3

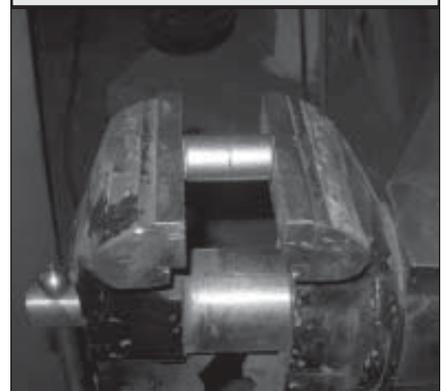


Photo 4



Photo 5

Rough Diamond. Measures about 5/8" (0.625") wide.

Does Jarosite Occur in Colorado?

So, are you interested in adding a little piece of Martian history to your collection? There obviously is no chance of you getting a specimen from Mars, but you are in luck. Jarosite can be found in Colorado.

Jarosite has been reported in several counties in Colorado. In Chaffee County, specimens have been found at the California Mine. In Lake County it has been reported throughout the Leadville area. Closer to home, Jarosite has been found in Teller County, in Cripple Creek.

To increase your odds, you need to find someplace where a large occurrence of pyrite is located. Because Jarosite is by-product of the decomposition of pyrite. As reported in the USGS document, **Mapping Acid-Generating Minerals at the California Gulch Superfund Site in Leadville, Colorado using Imaging Spectroscopy**: "... our study shows that pyrite weathers first to copiapite, a mixed Fe²⁺-Fe³⁺-sulfate, and then to jarosite, and eventually to hematite or goethite (Table 1), forming a sequence where the degree of oxidation and weathering is indicated by the species of secondary mineral that forms. Therefore, an indirect way to find oxidizing pyrite is to look for areas where the secondary minerals grade through the oxidation-weathering sequence (e.g. those areas with copiapite or jarosite surrounded by goethite or hematite)."

The full report can be read at:

<http://speclab.cr.usgs.gov/PAPERS.Leadville95/leadville1.html>

Table 1.

Pyrite and Secondary Minerals

Pyrite	FeS ₂ *
Copiapite	
Jarosite	Fe ₂ +Fe ₃ +(SO ₄) ₆ (OH) ₂ .20H ₂ O
Goethite	(Na,K)Fe ₃ +3(SO ₄) ₂ (OH) ₆
Hematite	alpha-FeO(OH) alpha-Fe ₂ O ₃

* Formulas from Fleisher (1980)

Jarosite continued from page 5

Opportunity's sol 31 on Feb. 25, the APXS and the Mini-TES took measurements from inside the hole for five hours. Later in the day, the rover swapped the APXS for the Mössbauer spectrometer, and it continued to collect data during a "leisurely 24-hour observation," according to JPL.

On sol 32 on Feb. 26, the Mossbauer continued to examine the hole for spectral signatures of iron-bearing minerals.

This led the science team to discover gray spheres, dubbed "blueberries," which had likely been solidified from a water source.

When all the data was in, the APXS had detected large amounts of sulfur and the Mössbauer had detected jarosite, a finding that the late Roger Burns, a geologist at the Massachusetts Institute of Technology, had predicted several years ago.

The last piece in this early stage Mar-

tian water puzzle fit, Squyres realized, when the last Mössbauer data returned Friday, Feb. 27. Immediately NASA officials began working with him to organize the March 2 press conference.

"Most of the scientists went into this mission armed with hopes and prejudices," said Squyres. "It's been fun over the past few weeks to watch the puzzle come together right before my eyes."

The jarosite evidence for the existence of water will not be the last finding the science team makes. The rovers have many meters to go and many sols remaining. Squyres, smiling before the media in Washington, D.C., said: "So far the mission has been very gratifying. We've enjoyed working one centimeter at a time. But, we're just getting started." 

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THE MINERAL JAROSITE

- Chemistry: KFe₃(SO₄)₂(OH)₆, Potassium Iron Sulfate Hydroxide.
- Class: Sulfates
- Group: Alunite
- Uses: Only as mineral specimens.

Jarosite is not a common mineral. It is closely related to the mineral **natrojarosite**. Jarosite is isostructural with natrojarosite which means that they have the same crystal structure but different chemistries. In this case, jarosite contains potassium instead of natrojarosite's sodium (natro is derived from the Latin for sodium, *natrium*, from where sodium gets its symbol, **Na**). The two minerals are difficult to distinguish without a chemical test.

Both minerals are isostructural with **alunite**, with a formula of KAl₃(SO₄)₂(OH)₆, who lends its name to the **Alunite Group**, of which all three minerals belong.

The symmetry of jarosite is the same as the members of the **Tourmaline Group**. Crystals of jarosite, however, do not form prismatic crystals like those of the typical tourmaline mineral. Jarosite's crystals are more flattened and resemble nearly cubic rhombohedrons. The "rhombohedral" are actually a combination of two trigonal pyramids.

PHYSICAL CHARACTERISTICS:

- Color **is an amber yellow or brown.**
- Luster **is vitreous to resinous.**
- Transparency: **Crystals are transparent to translucent.**
- Crystal System **is trigonal; 3 m**
- Crystal Habits **include tabular to flattened rhombohedral looking crystals. The "rhombohedral" are actually a combination of two trigonal pyramids. Crystals are somewhat scarce and small, more commonly as earthy masses, films or crusts, botryoidal and granular.**
- Cleavage **is good in one direction but only seen in the larger crystals.**
- Fracture **is uneven.**
- Hardness **is 2.5 - 3.5.**
- Specific Gravity **is approximately 2.9 - 3.3 (average to slightly heavy for translucent minerals, but hard to obtain from crusts)**
- Streak **is a pale yellow.**
- Associated Minerals **are ·barite, ·turquoise, ·galena, ·goethite, ·limonite, ·hematite and other iron minerals.**
- Notable Occurrences **include Jaroso ravine, Sierra Almagrera, Spain and Iron Arrow Mine, Colorado; Maricopa Co., Arizona; Idaho and California, USA.**
- Best Field Indicators **are crystal habit, associations, color and hardness.**

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From the Ice Age to Hartsel's Ranch: A Mineral's Travels Through Time and Over Landscapes

Steven Wade Veatch and Jeff Doolittle

As the Pleistocene Ice Age was ending and Colorado's glaciers were receding, sediment-choked streams from melting glaciers brought debris from the mountains around South Park into

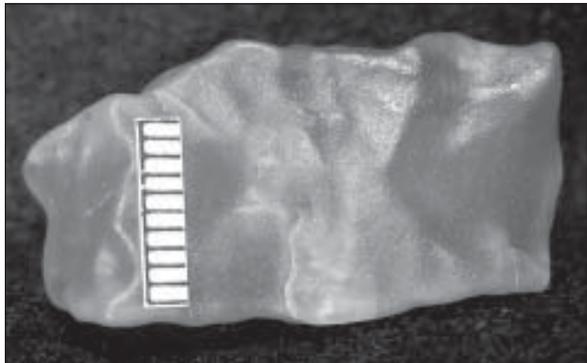


Figure 1. This smoky quartz specimen traveled many miles during the later part of the Ice Age until it finally came to rest on land that was once part of the Hartsel Ranch. From the J. Doolittle collection. Photo date 3/04 © by S. Veatch

lower areas. South Park is one of four high-elevation mountain parks in Colorado. Early European explorers called the area *Bayou Salado*.

Recently, a well-traveled smoky quartz specimen was found in a section of land in South Park. The collection site was once a part of Sam Hartsel's sprawling ranch that he started to build in the 1860s. This single piece of smoky quartz (Figure 1) was washed out from a nearby mountain by glacial melt-

waters. The smoky quartz chunk was tumbled and abraded many times during its journey by stream. Once it was washed out on a vast South Park field, fierce Pleistocene dust storms blew small particles of sand which struck the smooth surface of this tumbled mineral, leaving a frosted appearance on the surface. An examination of the smoky quartz specimen under a petrographic microscope revealed the pitted surface.

Although glaciers did not extend out of the mountains, evidence of Pleistocene glaciation is prevalent throughout South Park. This glacial past is seen in various ways: (1) modification of the landscape by glacial melt-water and (2) outwash sediments that were spread over the land (silt, gravel, and cobble terrace deposits). 



Figure 2. View of the double summits of Buffalo Peaks, a South Park landmark. Photo date 3/04 © by S. Veatch

Anyone Can Display a Collection

Noncompetitive cases are easy and fun

If we scared you off with the tale of Nathan Vogt's award-winning display cases in the February issue, don't despair. There is a noncompetitive case category for shows, and anyone can enter.

There are no rules in this category; just use your common sense. To start, look at your specimens and see if you notice a theme in your collection. Maybe you found

a great little bunch of fossils on the field trips last year. Or maybe you have two or three really nice crystals you've acquired. There is no minimum number of specimens required in this category, unlike with the competitive cases. (You do need to avoid cramming too many pieces in your display, however.)

Your display isn't limited to specimens,

William M. Steitzer
March 1938 - January 2004

Aka: Tiger-Eye

A miner and a good friend
Until the very end.
Up and down those
Old dirt roads.
Looking for treasure.
The good Lord stowed.
Could it be here?
Or maybe over there?
Sometimes in short pants
Other times long underwear.
Rain or snow
We didn't care.
Better wear a hat
If you haven't much hair.
You'll see elk and deer
Maybe even a bear
Take a big breath
Of that Rocky Mountain air.
Finding a pocket
Makes you feel fine.
If you break a crystal
You've committed a crime.
Try to get them cleaned
In the nick of time.
And it's off to the show
That you must go.
Set them all up
All straight in a row.
Turn on the lights
And watch them glow.
Then pray the show
Isn't too slow.
And with any luck
You may make a buck.
Maybe you can buy
A better truck.
This is a hobby
That you cannot beat.
A good pair of boots
Can save your feet.
It doesn't matter
What you may find.
It's just being out there
Spending the time.
We'll miss you Tiger
This much we know.
Whenever we dig
Or go to a show.
George, Ray and Clarence
Are waiting for you now.
Don't dilly dally
Or they'll have a cow.

With Love and Admiration
The Crystal Group

Memorial service will be held on Collyer's Mountain June 26, 2004 at 10 a.m. Food and festivities to follow. All who are interested may attend. Please RSVP Doug Collyer 303-660-0029

Fossil Hunting Field Trip a Go

Jerry Suchan has set up a joint fieldtrip with Western Interior Paleontological Society (WIPS) and CSMS for Sunday 2 May 2004.

This field trip will be to the Ordovician marine exposure (trilobites, brachiopods, blastoids, etc.) near Deckers Colorado, about 1 to 1 1/2 hour drive from Denver or Colorado Springs.

For full details there is an impressive website dedicated to this field trip:

http://home.earthlink.net/~gesuchan/Fossil/Manitou_Park/Field_Trip.htm

If you have a hardtime typing in this whole address, don't get worked up. I will be sending this address out via E-mail in the second week of April.

If you don't have E-mail call Jerry Suchan at 303-648-3410.

Volunteers Wanted for the CSMS Show

Each year the Colorado Springs Mineralogical Society holds its annual Rock and Gem show. It is with this show that this organization helps achieve its goal: *To promote and disseminate knowledge of the earth sciences, especially as they relate to mineralogy, lapidary, and fossils.* The show is also this organization's largest producer of funds.

This years show will take place on Fathers Day weekend of June 19-20, 2004 at the Phil Long Expo Center.

In year's past the show has been held at smaller venues and could not offer the variety and abundance that this year's show is scheduled to offer.

This is a call to all members. Please take a little time and help organize or run the show. If everyone can give as little as 30 minutes, we will have all the help needed.

Please contact one of the following if you would like to volunteer for pre-show help.

Manny Sanchez, Show Chairman
sandstonegemtec@msn.com

Drew Malin, Vice President
advanceone@adelphia.com

Robert Landgraf, President
RMLWP74@aol.com

either. Educational cases work, as well, perhaps old mining memorabilia or a display about a particular geologic feature. The sky's the limit, as long as it's related to gems and minerals.

You will need to apply for a display space in the show. The application is on pages 9-10. Once you are approved, you can pick up your case, which is provided by the club.

The next step is to arrange your pieces. Place the nicest item prominently in the center of the arrangement, with the other pieces nicely grouped around it.

Finally, you need to design the display space. The club's

cases are 2' by 3' and have lighting. You need to add the liner and risers, if desired. The liner is usually made out of a stretchy

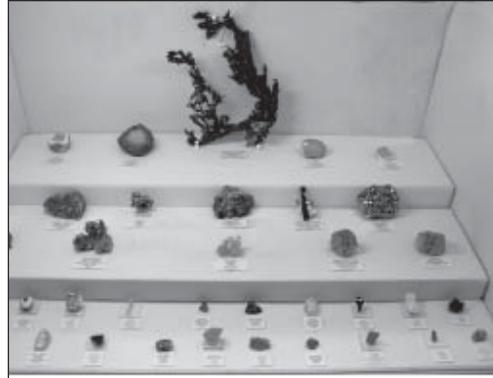
knit fabric, which is stretched around cardboard or foam core and glued into place. You will need to do the two sides and the back. The bottom can be done the same way, or can include risers, like the ones in the photo. Risers can be crafted out of styrofoam and also covered in fabric of the

same type or something complementary.

Each specimen needs to be labeled. Include the name of the mineral, fossil or stone, location it came from, and the chemical constituents or formula (if you know it).

That's it. Just bring the case, your liner and risers, and your collection to the

Expo Center during setup time. Then step back and watch other people enjoy your collection almost as much as you do!



Rob Eames' display at CSMS 2003 Show. See CSMS web site for more examples

Friends of the Florissant Fossil Beds, Inc. PRESENTS

The Florissant Fossil Beds National Monument: Where Have We Been, Where Are We Going?

Presented by Jeff Mow, superintendent

As the Florissant Fossil Beds enters its 35th year as a unit of the National Park Service, there is need for looking at how far the monument has come as well as a need to look forward toward future challenges. Many of the issues faced by the monument are a reflection of the National Park Service as a whole. In this program superintendent Jeff Mow will lead us on a journey about those challenges based on his 20-year association with the National Park Service. From the granite walls of the Yosemite Valley, to the undeveloped vastness of the Arctic, to the corridors of the Capitol in Washington D.C., Jeff will discuss how the National Park Service is reacting to many of the issues that face our society: the environment, the impacts of tourism, preserving our heritage, and economic development pressures.

Date & Time: May 6, 2004, 7:00 p.m.

Admission: There is no charge for the program.

Location: Tutt Science Center (Lecture Hall), 1112 North Nevada, Colorado College. Located in Colorado Springs. Take I-25 to Uintah Street Exit (143); go east, turn right (south) and you are there. Parking is available on the west side of the building and along the curb on Nevada Avenue.

Steve & Peggy Willman - Minerals Sangre de Cristo Gallery

114 Main Street, Westcliffe, CO 81252
email: gallery@ris.net 719-783-9459
Fall Hours: Friday & Saturday 10:00 to 5:00

Collectable minerals, fossils, crafts & local artists



By Appt. Only
719-531-7203
Joe & Marylee Swanson Colorado Springs, CO
Krystals@webtv.net



EXHIBITOR APPLICATION

NAME: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____ PHONE: _____

CLUB YOU ARE A MEMBER OF: _____ NUMBER OF CSMS CASES NEEDED: _____

I AGREE TO THE FOLLOWING:

1. Illumination for each case will not exceed 150 watts.
2. The Colorado Springs Mineralogical Society (CSMS) and the Show Committee can not assume any responsibility for loss or damage to any exhibitor's property, materials or specimens. Owners must provide their own insurance or assume their own risks. (Exhibit hall is under 24 hour security throughout the show.)

Signature _____ Date _____



APPLICATION FOR COMPETITIVE EXHIBIT SPACE

Class: B-1, C-4, D-2, Etc.

Exhibitor Group: Novice, Etc.

	CLASS	EXHIBITOR GROUP	CASE LENGTH
Entry Number 1:	_____	_____	_____
Entry Number 2:	_____	_____	_____

_____ Check here if you will have one or more specimens in the BEST OF SHOW THEME or in the BEST FIELD COLLECTED SPECIMEN competition. A specimen may be entered into either or both competitions. Please check with the Exhibits Chairman for appropriate identification of your specimen.

I AGREE TO THE FOLLOWING:

1. Abide by American Federation Mineralogical Societies (AFMS) UNIFORM RULES, as updated.
2. I certify that, where required by the rules, all material exhibited by me is my personal property or that all lapidary work was done by me.

Signature _____ Date _____

APPLICATION FOR NONCOMPETITIVE OR SPECIAL EXHIBIT SPACE

TYPE OF DISPLAY

CASE LENGTH

IF USING YOUR OWN CASE
IS IT FREE STANDING?

Entry Number 1: _____ YES / NO

Entry Number 2: _____ YES / NO

Signature _____ Date _____

Do not write below this line

Date Received _____ Officer's Signature _____



COLORADO SPRINGS MINERALOGICAL SOCIETY

40th ANNUAL PIKES PEAK GEM AND MINERAL SHOW

Phil Long Expo Center 1515 Auto Mall Loop

North Academy Exit 150 and go South. Turn left on Highway 83

Saturday	June 19, 2004	10:00 am. - 5:00 p.m.
Sunday	June 20, 2004	10:00 am. - 5:00 p.m.
Case Setup	June 18, 2004	2:00 p.m. - 9:00 p.m. and
	June 19, 2004	before 10:00 am.
Closing	June 20, 2004	5:00 p.m.

**For security reasons all displays must remain on exhibit until 5:00 p.m. THERE WILL BE NO EXCEPTIONS!
Cases must be removed between 5:00 p.m. and 7:00 p.m.**

Entries : Competitive Case Applications must be received by June 05, 2004
Non-Competitive Cases Applications must be received by June 10, 2004

BEST OF SHOW THEME TROPHY

This trophy will be awarded for the best specimen, thumbnail size category or larger, matching the Show theme. The 2003 theme is: "Feldspar". You may enter a specimen alone or as part of your display case. Judges will be Show Chairman, Co-chairman, and CSMS President.

FOUNDERS TROPHY

This trophy is awarded to a competitive class exhibit in the Founders Trophy entry category at the CSMS Show. The designated entry category changes each year. (Check with the Show Committee for the designated category for this year.)

The winning exhibit must receive a score of at least 90 in order to qualify. The winning exhibit must also receive the highest score from the Judging Committee within the designated award category.

The name of the winner will be engraved on a permanent trophy which remains the property of the Colorado Springs Mineralogical Society. A separate individual trophy will be given to each winner.

BEST FIELD COLLECTED SPECIMEN

This award is open to fossil and mineral specimens collected by the exhibitor within the 12 months preceding the Show. Specimens for judging must be identified to the Exhibits Chairman by opening time of the first show day, who will supply a unique ID for the specimen.

Completed exhibit application forms can be turned in at the monthly CSMS meetings or mailed to:

**Kaye Thompson
1630 Mesita Court
Colorado Springs, CO. 80906**

Board Meeting: 1st Wednesday @ 7:00
Bob Landgraf: 687-3195

Camera Club: 4th Tuesday @ 7:15
 1514 North Hancock, C/S
Roger Pittman: 683-2603

The Camera Club meets at 7:15 on the fourth Tuesday of each month at the Senior center. The competition subject for April is birds. A program will be shown.

Crystal Study Group: 2nd Friday @ 7:15
 1514 North Hancock, C/S
Kerry Burroughs: 634-4576

Kerry is going to continue with his fine series of presentations. The next crystal group presentation is a presentation on Beryl. Weather you are an official member of the Crystal group or simply a member of the CSMS we invite you to attend.

Faceting Group: 4th Monday @ 7:00
Dave Wilson: 635-7891

The next meeting of the faceting satellite group will be Monday, April 26 at Kristine Harris's, 6135 Eagle Nest Drive, at 7 pm.

CABS
Lapidary
Equipment

DICK'S ROCK SHOP
(719) 390-7788



SLABS
Silversmithing
Supplies

7310 South Hwy. 85/87
Fountain, Colorado 80817

Diana Wing

Celebrating our 25th Year

Fossil Study Group: 4th Thursday @7:30
John Harrington: 599-0989

April Fossil Meeting is scheduled for Oscar and Joyce Price's, 308 Maplewood Dr. in the Cragmor area, 7:30, on April 22nd.

Lapidary Group: 1st Saturday @ 10:00
 3085 Rhapsody Drive, C/S
Drew Malin: 531-7594

This month's meeting is going to be at the Western Museum of Mining. We will be assisting in the repair of the display cases and equipment for this year's CSMS Show. We will also be looking over the space the museum has set aside for us to set up our future Lapidary workshop - Yes, Drew wants us out of his garage. Come help the club and get a feel for our future home.

Micromounts: 2nd Tuesday @ 7:00
 1514 North Hancock, C/S
Rob Eames: 599-7025

No information given.

Jewelry Group: 3rd Saturday @ Noon-4:00
 6608 Gambol Quail Drive East, C/S
Rick Copeland: 594-6293

The next regular meeting of the Jewelry club will be Saturday, April, 17 @ Rick Copeland's house, 6608 Gambol Quail Dr. E. Bill Arnson is willing to do another wire wrap class. If interested call Bill @ 749-2328.

President	Robert Landgraf	687-3195	RMLWP74@aol.com
Vice President	Drew Malin	531-7594	advanceone@adelphia.com
Secretary	Sidney Benda	488-9751	sid470@adelphia.net
Treasurer	James Bushnell	598-9262	bushy@pyramidpeak.com
Membership Secretary	Lorrie Hutchinson	382-3503	lorriehutchi@wmconnect.com
Managing Editor	Ethan A. Bronner	448-9949	CSMSpickANDpack@msn.com
Member-at-Large	Louis Severini	687-9491	
Member-at-Large	John White	630-0300	bluski2222@msn.com
Past President	Kaye Thompson	636-2978	
Show Chairperson	Manny Sanchez	495-7858	sandstonegemtec@msn.com
Field Trip Director	Roger Pittman	683-2603	roger_pittman@tmc.com
Librarian	Mary O'Donnell	689-7209	mod4185@compuserve.com
Camera Club	Roger Pittman	683-2603	roger_pittman@tmc.com
Crystal Study	Kerry Burroughs	634-4576	kburroug@adelphia.net
Faceting Group	Dave Wilson	635-7891	dlwilson@pcisys.net
Fossil Group	John Harrington	599-0989	harrington1@mindspring.com
Lapidary Group	Drew Malin	531-7594	advanceone@adelphia.com
Micromount	Rob Eames	599-7025	RJ7060@aol.com
Jewelry	Rick Copeland	332-7915	rick.copeland@covad.net

Events

- 3 **April - Saturday, 10:00 AM**
Equipment Repair Day
- 7 **April - Wednesday, 7:00**
Lapidary Group
- 9 **April - Friday, 7:30**
Crystal Study Group
- 13 **April - Tuesday, 7:00**
Micromount Group
- 15 **April - Thursday, 7:30**
General Assembly
- 17 **April - Saturday, Noon**
Jewelry Group
- 22 **April - Thursday, 7:30**
Fossil Group
- 26 **April - Monday, 7:15**
Faceting Group
- 27 **April - Tuesday, 7:15**
Camera Group
- 5 **May - Wednesday, 7:00**
Board Meeting
- 8 **May - Saturday, Noon**
Lapidary Group
- 11 **May - Tuesday, 7:00**
Micromounts Group
- 14 **May - Friday, 7:30**
Crystal Study Group

23-25 April - Fri, Sat & Sun
 Rocky Mountain Federation Show & Convention; Hosted by Wichita Gem & Mineral Society, Cessna Activity Center, 2744 George Washington Blvd., Wichita, KS.

2 May - Sunday
 WIP & CSMS Rock Fossil field trip: http://home.earthlink.net/~gesuchan/Fossil/Manitou_Park/Field_Trip.htm.
 Jerry: 303-648-3410

19-20 June - Sat & Sun
 CSMS Rock & Gem Show, Phil Long Expo Center. This year's theme is *Rockhounding: A Family Affair*. This year's mineral is Feldspar.

Ethan A. Bronner, Editor



P.O. Box 2
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Joining the Colorado Springs Mineralogical Society (CSMS)

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

CSMS also offers Satellite Group meetings that allow more focused attention in specific areas of our members' interests. Our current Satellite Groups consist of the following: Camera Club, Crystal Study Group, Faceting Group, Fossil Study Group, Lapidary Group, Jewelry Group. For details of Satellite Group meetings, see page 9.

Yearly Dues include the 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 and Industry*, a year of learning and enjoyment, plus a lifetime of memories. Individuals - \$15.00 Family - \$25.00 Juniors - \$2.00

If you are interested in joining the 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 website: www.csms.us