



Ore-Cutts

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The Mystery of Biconoids

Scientists Debate How These Agate Specimens Were Formed

by Bea and Sherm Griselle, Members of Santa Lucia Rockhounds
Reprinted from "Rock and Gem"

Biconoids are found in an area west of the unincorporated town of Templeton, California. The town is part of California's central coast region. It adjoins the southern boundary of the city of Paso Robles and is about 20 miles north of San Luis Obispo. Biconoids are distributed in fields west of the Salinas River in an area about four square miles in size.

Biconoids first came to the attention of rockhounds during the 1950s, when they were found in farmers' fields plowed for dry farming. Fields surrounding the Templeton Cemetery were early collecting locations. A few biconoids can still be found in fields west of Templeton when cultivation brings them to the surface. However, development has overwhelmed the area, with a hospital, medical offices, a bank, a large convalescent facility and housing tracts covering fields where biconoids were previously found. Consequently, biconoids are rarely discovered anymore.

The shape of biconoids puzzled early collectors, and different theories arose as to their origin. One theory was that agate replaced the shell of a bivalve and filled the interior. Another theory asserted that they were a concretion that developed when agate formed around a small object. Yet another is that they are the agate cores of thundereggs or geodes. Scientific research will be needed to determine how biconoids were created.

Why biconoids are found west of Templeton is another puzzle requiring research. The area is hypothesized to be an uplift of sedimentary deposits from an ancient sea of the Middle Miocene Epoch that covered much of this part of California. This marine-environment Monterey Formation was later

adjoined by the buildup of a non-marine Paso Robles Formation during the Pleistocene Epoch. Over the years, a layer of alluvial soil and gravel has been deposited over these formations, and it is in this layer that biconoids are found.



Examples of Templeton Biconoids from Ralph Bishop

The alluvial deposit is thought to have been washed in from hills to the west during ice age flooding. Biconoids may have been deposited in an ancient flood plain that meandered through the area and was uplifted over time. Subsequent erosion and later cultivation revealed a hoard of biconoids waiting to be discovered.

The Templeton area may be the only place this distinctive type of biconoid has ever been found. Other locations around the world have been alleged, but these assertions have not been verified by scientific research. Templeton-area biconoids cannot be surpassed for their quantity and quality, and the area must be considered the type locality for this type of biconoid.

Perfectly formed biconoids (bi - two; conoid - cone-shaped) are symmetrical, with the appearance of two joined cones. Classic biconoids have no surrounding matrix because, over time, exterior material has been eroded away, leaving only a very clean and durable agate biconoid. Perfect examples are rare because most are covered with a matrix com-

posed mainly of coarse, light-colored rhyolite, probably derived from Monterey Formation shale.

Matrix-free biconoids reinforce the theory that they were slowly washed down over a long period of time from a mountain farther west. That would have caused the rhyolite (Mohs 4) matrix to be slowly tumbled away, leaving only the harder (Mohs 6.5) agate biconoids. This slow journey may also explain why some biconoids are so severely worn down that they resemble rounded cobble. Yet other biconoids have been found with thick matrix, and it is theorized that they were rapidly washed down from their original source in a catastrophic slurry of mud and gravel, so that there was no time for matrix erosion to take place.



Highway 46 Thunderegg and Biconoid from Wes and Jeanne Lingerfelt's Collection

Matrix-free biconoids that have not been worn down exhibit surface ridges in an umbrella-like pattern on both sides. This "skirting" pattern is an identifying feature. Biconoids embedded in matrix often reveal a circle of exposed quartz or agate where the cones join and the matrix has been eroded. This "belt" is another identifying feature. A replication of the uncommon shape and interior form of biconoids has not been found in other rocks or minerals.

There is a great variation in the shape of biconoids. In addition to the classic symmetrical shape, they range from misshapen single biconoids to "multi conoids," containing two or more merged biconoids. The interior patterns of these melded clusters are irregular.

The interiors of biconoids can be solid or fractured, and can contain hollows lined with quartz crystals. Smaller biconoids are of solid agate, while larger ones are more apt to have fractured interiors and hollows. They range from golf ball (2 inches) to

softball size (6 inches). It has been reported that a few football-size (9-inch) biconoids have been found.

The interiors can also reveal varying patterns and colors, including white, yellow, pink, grey and black, and all these colors can be found mixed in a single biconoid. The interiors can also be varied with banded agate, sagenite, and tube and iris agate, forming beautiful patterns.

Biconoids that have been cut and polished are a wonder to behold. They also provide exquisite material for cabochons and jewelry. Every biconoid has its own individuality, and this uniqueness adds to their mystique. Biconoid exhibits can be breathtaking in their beauty.

Because of its rarity and its unusual bi-conal form, the biconoid is a distinctive find that is of immense interest to rockhounds. A biconoid exhibit will be on display during the CFMS Gem, Jewelry & Mineral Show, hosted by the Santa Lucia Rockhounds at the California Mid-State Fairgrounds in Paso Robles, June 22-24, 2001. Attend the show and marvel at these wonders of nature called biconoids, one of the treasures of California.

Note: This article first appeared in the June 2001 issue of "Rock and Gem" Magazine. If you missed CFMS show, we can make arrangements with the Griselles for you to see some of their fine specimens.

Templeton Biconoids

by Ralph Bishop

Bea & Sherm Grisselle's article about the local Templeton biconoids leads me to bring to the attention of the club a new addition to the library. That edition is a copy of a book written by an old digging partner of mine, the Geode Kid, aka Robert Coleburn, aka Paul Raderski. This edition was given to me as a personal gift, and I felt it should be part of our library.

Paul and I spent a good deal of time digging in Oregon during the 1970's. Besides being a character of the first water, he is infinitely intelligent and has spent the majority of his life accumulating the knowledge that has resulted in this book. All his concepts are backed up by photographic examples, and he has spent untold hours of field study that come from infinite hours of field work and digesting other people's concepts. It is my opinion that he has hit the nail on the head.

In the past, the source of the biconoids from Templeton, and their formation, has always been

shrouded in confusion. As I was growing up, the locals insisted that these agates were the casts of fossil shellfish. It was a point of local pride. One reason for the confusion is that the biconoid fields occur in massive beds of Monterey shale in and around all the biconoid producing areas. This formation produces many marine fossils. In addition, the biconoids were mistakenly identified by an academic authority as marine fossils. This did not help the situation.



Oregon Multi-conoid and Biconoid from Ralph Bishop

And, at that time, Highway 46 had not been constructed over the crest of Black Mountain. As that highway was being built, the source of the biconoids was discovered in the roadbed. Of course, Paul always knew they were the source of thundereggs as he mentions in his book.

Paul writes his book with an air of humility, and his goal is to find the actual truth on how thundereggs are formed. The book is about 400 pages in length with 200+ color photographs.

Orcutt Mineral Society Board Meeting

Mussell Senior Center, Santa Maria CA
December 5, 2002

The Board Meeting was called to order by President Dick Shields at 7:00 p.m. Board Members present were Deborah Hood, Wes Lingerfelt, Wayne Mills, Don & Sylvia Nasholm,

Marshall Reeves, and Dick & Bess Shields. Guest was Geary Sheffer.

Minutes of the November 5th Board Meeting, and the November 12th General Meeting were approved as published.

Treasurer's Report: Wes Lingerfelt presented the Treasurer's Report. It was accepted as read.

Committee Reports:

Bulletin: Bess Shields reported that the December issue has been mailed &/or e-mailed.

Gem Show: Wes Lingerfelt reported that the pile of donated rock from Ione Griggs is in place. The remaining material will be auctioned and sold. Wes has the 2003 Gem Show Raffle Tickets, and they will be numbered soon for early distribution and sale this year.

Budget and Audit: Don Nasholm and Wes Lingerfelt will conduct an OMS audit before the end of 2002.

Refreshments: Dick Shields reminded Wayne Mills that a new refreshments chairman needs to be appointed prior to the January General Meeting. Remaining supplies are currently stored in our club rental unit.

Abused Children: Debbie Hood expended \$340.00 for gift certificates/credit cards in small denominations for donation to Social Services to be used by the Abused Children.

CFMS: Wes Lingerfelt reports that Zyzxx is sold out. There is a youth program planned for August by CFMS, similar to Camp Paradise and Zyzxx.

Sunshine: Debbie Hood reported that Lucky and Lynda Virgin have the flu.

Annual Banquet: Debbie Hood reported that everything is set to go for the Annual Meeting on Saturday.

Membership: Dick Shields called for a vote on admitting three new members: Fred Sommerson, Dale Batchelor, and Ken Kreh. They will be welcomed at our Annual Banquet on Saturday.

Field Trips: Dick Shields reported that he has posted the 2003 field trip schedule on our OMS Web Page already. As the new committee chairman, he plans at least one local field trip per month, and will hold other impromptu gatherings as the need arises.

Education: Bess Shields will be giving a Rock Talk on December 11th at Refugio Beach for 72 Buellton sixth grade students, and a number of chaperones. OMS has a full team of speakers and demonstrators who serve the community with educational presentations.

Librarian: Bess Shields reports the addition of two new books to our library.

Club Breakfast: There will not be a club breakfast in December.

Raffle: Marshall Reeves asked how the Board wants him to submit a report to account for the Raffle. Wayne Mills said that an accounting of how much Marshall spent, how much money was taken in at the Raffle, and a starting point inventory would suffice. Marshall will submit a 2002 summary sheet of this information at the January Board meeting.

BBQ: Wayne reported that the Annual Barbecue has been changed to June 21st at Pioneer Park, and he already has the reservation.

Correspondence:

- Tule Smoke Signals newsletter from Tule Gem & Mineral Club.
- Sun Valley Indian School note.

- Dinny's Doins newsletter.
- Searchers (Anaheim Club) invitation to 1-day field trip.
- Quartzsite Cloud's Jamboree information sheets.
- Pick & Shovel newsletter from San Geronio Mineral & Gem Club.
- Tumble Rumble newsletter from Capistrano Rock & Mineral Club.
- Crystal Ball newsletter from Santa Barbara Mineral & Gem Club.
- Metal Stone & Glass magazine.
- Salvation Army request for donations.
- Seaside Gemboree information sheets.
- Bakersfield Rendezvous information sheet.

Old / unfinished business:

Sylvia Nasholm thanked the Board for temporarily moving the meetings to Thursday to accommodate her class schedule.

Wayne Mills announced that he has scheduled us in the Silva 1 room for 2003.

Wes Lingerfelt volunteered to print a copy of the Standing Rule changes, and a copy will be placed on each table at the Annual Meeting for review.

New business:

Dick Shields reported that Hancock College personnel have no further information about lapidary arts classes at Mussell Sr. Center.

The OMS Annual Meeting will be held at Maria del Sol beginning at noon on Saturday, December 7th. Entertainment by Sweet Adelines, swearing in of the 2003 officers, and awarding of door prizes will follow lunch.

The Board Meeting was adjourned at 7:55 p.m. by President Shields.

Respectfully submitted,
Bess Shields, Secretary, OMS

**Orcutt Mineral Society
Annual Meeting**

7 December, 2002

The annual business meeting of the Orcutt Mineral Society was held at Maria del Sol, 1405 Main Street, Santa Maria CA on December 7th, 2002. The meeting was presided over by President Dick Shields who opened the meeting at 12:17 p.m. The invocation, "Sunlight and Hope", was given by Bess Shields. The Pledge of Allegiance was led by Charlie Azevedo. There were 38 members and 7 guests present.

Prior to the business and entertainment portion, a buffet of baked ham, roast turkey, numerous accompanying dishes, and dessert were prepared for us by the Maria del Sol chefs.

The President's Annual Report was given by outgoing President Shields. Dick cited growth areas during his year in office, including an increased membership, a solid financial foundation, and hosting our successful Gem Show. He thanked our membership for support of club activities, highway cleanup, speaker's bureau, and donation opportunities.

Minutes of the previous General and Board meetings will appear in the January Ore-Cutts.

Debbie Hood reminded people to deposit their Salvation Army donations at the hostess table. She then circulated through the room with the Abused Children Fund donation can.

Dick Shields presented the Proposed Standing Rules and Operating Procedures changes to the membership, and de-

scribed the reasons for the changes. Since OMS now has one show yearly instead of two, these changes were necessary. Wes Lingerfelt moved that we adopt the changes. Salty Tapper seconded the motion. It was unanimously approved.

Wes Lingerfelt delivered the December Treasurer's Report. Wes presented the Proposed Budget for 2003, and explained the finer points. Wayne Mills moved that we accept the report as read, and it was seconded by Marjorie Hoogenbosch. The motion passed unanimously.

Wes Lingerfelt asked for a moment of silence in memory of Hal Nuernberg, a longtime member of OMS, who passed away earlier this year.

Debbie Hood announced that Social Services received the OMS yearly donation, and thanks us for our generosity.

Wayne Mills asked members to bring Treasure Chest donations to the January meeting for a "Show and Tell", and awarding of a prize for the best donated item. The items will be raffled at the August Gem Show's Treasure Chest.

Wes Lingerfelt discussed a new CFMS seminar for kids in August. Ask Wes for further information.

Wayne Mills needs three volunteers each month to bring refreshments. Also, he is looking for a chairman.

The Sweet Adelines entertained us with a medley of holiday tunes.

The outgoing Board Members and Officers receiving pins and bars in recognition of their service for 2001 were: Deborah Hood, Bill Hood, Don Nasholm, Sylvia Nasholm, and Marshall Reeves as Board members; Wes Lingerfelt, Federation Director and Treasurer; Wayne Mills, President Elect, Bess Shields, Secretary; and Dick Shields, outgoing President.

Wes Lingerfelt administered the oath of office to the Board members who were present: Marshall Reeves, and Geary Sheffer. Other Board Members will be sworn in at the January meeting. Outgoing President Shields, administered the oath of office to Wes Lingerfelt as Federation Director and Treasurer. Wes then administered the oath of office to Wayne Mills (President), Debbie Hood (President elect), and Bess Shields (Secretary).

Incoming President, Wayne Mills, spoke of the successful 2002 Gem Show, our strong community service projects, and growing membership. He looks forward to more field trips, giving more scholarships, and attending some entertaining programs in 2003.

The poinsettia centerpieces were given away by drawing tickets. The meeting was adjourned by President Wayne Mills at 2:15 p.m.

Respectfully submitted,
Bess Shields
Secretary, OMS

HOW BIG IS A BOULDER?

Officially, size determines what a rock is called:

BOULDER	More than 10" in diameter
COBBLE	From 2.5" to 10" in diameter
PEBBLE	.16" TO 2.5" in diameter
GRANULE	.08" to .16" in diameter
GRAIN	.04" to .08" in diameter
Pearls to us via the Gem Grapevine from Michigan Gem News; Rockpile 10/97 and Lapidarian 11/97	

Check our OMS web site at http://home.netcom.com/~shields6/OMS_2001.html or send email to oms@ix.netcom.com.



What's all that red stuff under Wes's truck?
Hint: He and Marty just returned from Oklahoma where they encountered SNOW! Is the red stuff a) rubber residue from warm tires, or b) some "Oklahoma" they brought back?

Selenite from the Naica Crystal Caves

Imagine the frustrations of discovering huge, perfect crystals in a subterranean cavern which is so hot and humid that you can only stay in for a couple of minutes! The caves have 4-foot-in-diameter columns 50 feet in length, but a person can stay inside the cave for only six to ten minutes before becoming disoriented. Read about this incredible discovery in the April 2002 issue of Smithsonian magazine, or on the web at "Crystal Moonbeams," by John F. Ross, one of our web sites of note this month. Watch for a feature article on selenite, a locally occurring mineral, in next month's *Ore-Cutts*.

The Wanderer

Refugio Beach "Rock Talk"

I recently had the opportunity to give "Rock Talks" to two groups of 6th grade Buellton students, but this time the talks were held at the beach instead of in the classroom. What a delightful change! Several OMS members were invited to participate, but each one had a compelling reason to decline. So, I single-handedly worked with 66 students and 11 chaperones.

The teachers divided the group with half attending an orientation at Arroyo Hondo Preserve, and the other half remaining at Refugio Beach. The students were attentive and polite as the "Rock Talk" was given. Each student received an information sheet about rock types and local geology, a poke sack with local rock samples, a baby geode, a quartz cluster, and a topaz crystal. The talk was followed by a hike on the beach to locate the geologic features I had mentioned.



Coastline several miles west of Refugio

Refugio Beach is located halfway between Buellton and Goleta on the coast just south of Tajiguas. This means it's approximately 25 miles to town in either direction on Highway 1 for gas or food. There are restrooms and outdoor showers at the beach. A small admission fee is charged at the Refugio Beach en-

trance, but this also entitles you to enjoy Gaviota Beach to the north.

Some of the kids remembered to bring binoculars and enjoyed bird watching, and whale watching. Students weren't allowed in the water, but some went home in soggy footwear.

The refreshment concession was closed, so you should plan to take a sack lunch and soda if you plan a trip during winter months and weekdays. A rock hammer is a useful tool for exploring shale on the northern cliff area and tidal pool rock layers. Rocks found on the hike included shale, chert, lots of agate, sandstone, brecciated jasper pebbles, and a small amount of fossil bone.

Many thanks to the various OMS members who sewed the poke sacks each student received. A special thank you to Helen Smith for donating the small quartz crystal clusters, and a larger specimen given to the classroom resource area!

I had a tiring day, but the joy of instructing such an appreciative group made it well worth the time and effort. I enjoyed watching as they handled the specimens. I answered numerous questions about our central coast geology, and gave them a list of rock related references for later use.

I hope that some of you will join the Speaker's Bureau "Rock Talk" group for future presentations! I guarantee, "Try it, you'll like it!"

Happy Hunting!
Love, Bess

Official Stuff

OMS Purpose

Founded in 1958, and is named after William Orcutt, a geologist and civil engineer who worked in the Santa Maria Valley as a district manager for Union Oil Company in 1888. In 1889, Orcutt discovered the fossil wealth of the La Brea Tar Pits, one of the most significant fossil finds in paleontological history. The Society is a non-profit club, dedicated to stimulating an

interest in rocks and minerals. The club offers educational programs, field trips, youth activities, and other opportunities for families and individuals to pursue an interest in collecting and lapidary treatment of rocks, fossils, gems, minerals, and other facets of Earth Sciences. In addition, a goal of this Society is to promote good fellowship and proper ethics in pursuit of the society's endeavors. Operating rules have been set forth to guide the Officers and members of the Society in accomplishing these purposes. Affiliations: California Federation of Mineralogical Societies and American Federation of Mineralogical Societies.



OMS Logo

A rock saw cutting a piece of stone was selected when the first bulletin, *ORE-CUTTS* (namesake, William Orcutt) was first published in 1966. Member Helen Azevedo was the first editor.

2003 OMS Elected Officers

President	Wayne Mills	(805) 481-3495
President Elect	Debbie Hood	(805) 481-6860
Secretary	Bess Shields	(805) 937-0357
Treasurer	Wes Lingerfelt	(805) 929-3788
Immediate Past President	Dick Shields	(805) 937-0357
CFMS Representative	Wes Lingerfelt	(805) 929-3788

2003 OMS Board Members

Geary Sheffer	(805) 925-8009
Sylvia Nasholm	(805) 481-0923
Harold Virgin	(805) 481-0923
Linda Virgin	(805) 481-0923
Marshall Reeves	(805) 733-2775

Web Sites of Note:

January 2003

"Snow Crystals," by Kenneth G. Libbrecht, Caltech (check out the dendrite examples!):

<http://www.its.caltech.edu/~atomic/snowcrystals/>

"The Xara Xone WebXealot Workbook," edited by Gary W. Priester:



A product from Gary's Snowflake Lesson

<http://www.xaraxone.com/webxealot/workbook09/index.htm>

"Draining the Oceans and Tectonic Plates," Smithsonian:

<http://www.nasm.si.edu/earthtoday/geo.htm#quakes>

"Crystal Moonbeams," by John F. Ross:

<http://www.smithsonianmag.si.edu/smithsonian/issues02/apr02/phenomena.html>

Naica Crystal Caves:

<http://www.showcaves.com/english/mx/caves/Naica.html>

USGS Geology in the Parks:

<http://wrgis.wr.usgs.gov/docs/parks/project/home.html>

Photo & Virtual Tours of CA Mojave Desert:

<http://aeve.com/digitaldesert/index.html>

Scientific American article on Chichen Itza, echo at Kulkulkan:

<http://www.sciam.com/article.cfm?articleID=00015710-7CF0-1CE2-95FB809EC588EF21&pageNumber=1&catID=9>

California Type Localities:

http://www.mineralsocal.org/scfm/california/california_type_localities.htm

MOH's hardness test:

<http://www.rocksandminerals.com/hardness/mohs.htm>

Pleochroism, phosphorescence, etc.:

<http://mineral.galleries.com/minerals/property/pleochro.htm>

Laurel & Hardy dancing:

<http://www.rybeck.com/main.html>

January 2003 Calendar

Thursday January 02, 2003 7:00 PM - 8:30 PM	OMS Board Meeting -- Mussell Senior Center. All members are welcome at this business meeting
Saturday January 11, 2003 9:00 AM - 4:00 PM	Field Trip to Jalama Beach -- Meet at Mussell Senior Center Parking Lot. We will depart Mussell Senior Center Parking Lot at 0900. Entrance fee for each vehicle at Jalama. Walk over beach sand and rock to a travertine outcropping. There is oil on the beach so bring old shoes for the walk. Low tide is at 12:13 P.M. Bring a lunch or eat in the Jalama Café on the beach.
Tuesday January 14, 2003 7:00 PM - 9:00 PM	OMS General Meeting -- Mussell Senior Center <ul style="list-style-type: none"> • Program: Virginia Rogers, owner of Brazil Jewelers in Arroyo Grande, will discuss "Jewelry." • Display: Prize for best Treasure Chest donation • Refreshment: Donuts
Saturday January 18, 2003 8:00 AM - 10:00 AM	OMS Highway Cleanup -- Intersection of Hwy 101 and Hwy 166. After the cleanup we have coffee and pastry at "Omelets and More" in Nipomo. Contact Marshall Reeves at 733-2775 for details.
Saturday, January 25, 2003 8:30 AM - 9:30 AM	Monthly OMS Breakfast -- Girl's Restaurant, Arroyo Grande Call Dick Shields at 937-0357 for details.

February 2003 Calendar

Thursday February 6, 2003 7:00 PM - 8:30 PM	OMS Board Meeting -- Mussell Senior Center. All members are welcome at this business meeting
Tuesday February 11, 2003 7:00 PM - 9:00 PM	OMS General Meeting -- Mussell Senior Center <ul style="list-style-type: none"> • Program: Wes Lingerfelt will present, "How to Tumble (Rocks)." • Display: Bring a fist-full of your favorite tumbled rocks. • Refreshment: Cake and Cup Cakes
Saturday February 15, 2003 7:30 AM - 7:30 PM	Field Trip to Rosamond and California City Area, Mojave Desert -- Meet at Mussell Senior Center Parking Lot. A long day but well worth the trip. Car pooling is encouraged. The afternoon will end at Lucy Tunnell's home in Rosamond. Her standard price is 25 cents per pound. Good Café food available near Lucy's.
Saturday February 22, 2003 8:30 AM - 9:30 AM	Monthly OMS Breakfast -- Baker's Square, Santa Maria Breakfast location alternates between Baker's Square in Santa Maria and The Girl's in Arroyo

March 2003 Calendar	
Thursday March 06, 2003 7:00 PM - 8:30 PM	OMS Board Meeting -- Mussell Senior Center. All members are welcome at this business meeting
Tuesday March 11, 2003 7:00 PM - 9:00 PM	OMS General Meeting -- Mussell Senior Center <ul style="list-style-type: none"> • Program: Dick Shields will present, "Fluorescent Rocks" • Display: Green Stones • Refreshment: Pies
Saturday March 15, 2003 8:00 AM - 10:00 AM	OMS Highway Cleanup -- Intersection of Hwy 101 and Hwy 166. After the cleanup we have coffee and pastry at "Omelets and More" in Nipomo. Contact Marshall Reeves at 733-2775.
Saturday March 22, 2003 8:30 AM - 9:30 AM	Monthly OMS Breakfast -- Girl's Restaurant, Arroyo Grande Breakfast location alternates between Baker's Square in Santa Maria and The Girl's in Arroyo Grande. Call Dick Shields at 937-0357 for details.
Saturday March 29, 2003 8:00 AM - 5:00 PM	Field Trip to Figueroa Mountain -- Meet at Mussell Senior Center Parking Lot. Explore old jasper trails, serpentine outcroppings, and wildflowers in full bloom. Fill your gas tank (no services on the mountain) and bring a lunch. Wilderness Pass required.

GEM SHOW INVITATIONS

Tule Gem Show 2003
 Saturday, January 11 & Sunday, January 12
 10:00 a.m. to 5:00 p.m.
 Veteran's Memorial Bldg on Highway 65 in Exeter
 info: prentis.whitt@verizon.net

AFMS/CFMS Seaside GEMboree
 Thursday through Sunday, 5,6,7 & 8 June, 2003
 Thur-Sat 10 am - 6 pm and Sun 10 am - 5 pm
 Seaside Park (formerly Ventura Fairground)
 10 W. Harbor Blvd, Ventura
 info: www.afms-cfmsgemshow.org

Carats and coins

Have you ever wished that you could tell the weight of a stone easily or use a familiar item for comparison? Ray Köpman gives us just such a ready reference.

United States coins weigh approximately:	
Dime = 11 carats	Penny = 15 carats
Nickel = 25 carats	Quarter = 28 carats
Half dollar = 56 carats	Silver dollar = 133 carats
More pearls to us via the Gem Grapevine via the Diablo Diggins 2/97 and Carmel Valley Prospector 3/97	

Orcutt Mineral Society
 P.O. Box 106
 Santa Maria, CA 93456

ADDRESS CORRECTION REQUESTED