

Contra Costa Mineral & Gem Society

Annual Report

1/1/02 - 12/31/02
(unaudited)

A. Checking Account Balance a/o 12/31/01

\$10,475.91

Inflows

Interest Earned	27.72
Membership Fees	1,327.00
Patches & Decals	11.50
Auction (Scholarship Fund)	660.50
2001 Show	149.91
2002 Show	11,636.32
<u>Total Inflows</u>	<u>13,812.95</u>

Outflows

Charity	760.50
Class Expense	601.78
Diablo Diggins (printing & postage)	2,203.53
Dues and Insurance	753.00
Additions to Library	43.05
Meeting Expense	960.92
Membership Expense	74.16
Miscellaneous Expense	440.12
Property Expense	1,236.78
2002 Show Expense	5,954.60
<u>Total Outflows</u>	<u>13,028.44</u>

B. Checking Account Balance a/o 12/31/02

\$11,260.42

C. CD (Renewal term: 180 days) Balance effective 12/25/02

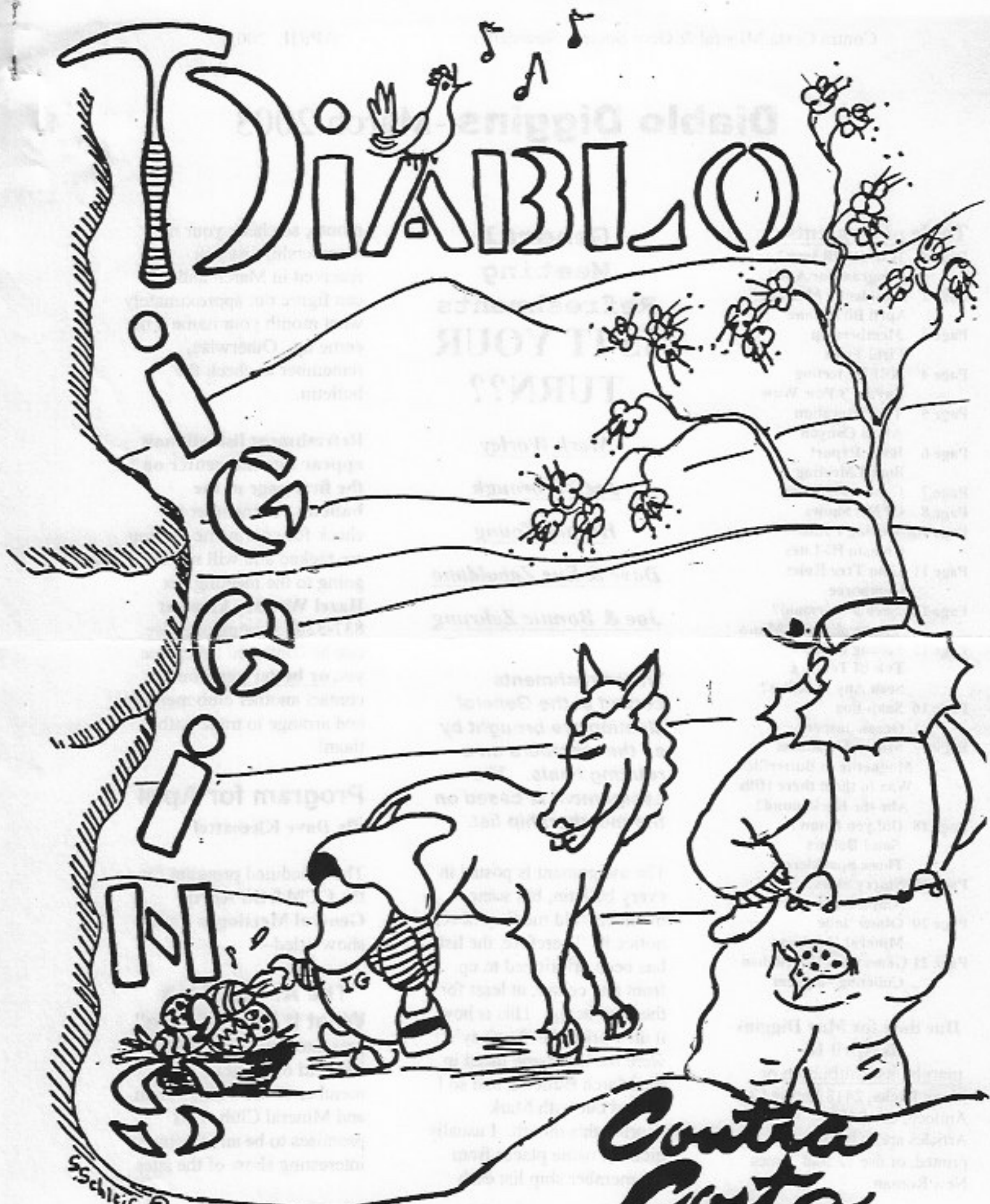
8,162.18

D. CD (Renewal term: 12 months) Balance effective 02/07/02

17,982.40

Total Assets as of 12/31/02

\$37,405.00



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406

April 2003

**Contra
Costa**
MINERAL + GEM SOC.
WALNUT CREEK, CA

Diablo Diggins -March 2003

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**Due date for May Diggins
is April 18.**

maryhicks@attbi.com or
Mary Hicks, 2418 Larkin Ct.,
Antioch, CA 94531

Articles are to be typed or
printed, or use 12 font Times
New Roman.

General Meeting Refreshments IS IT YOUR TURN??

Mark Worley

Joe Yarbrough

Horace Young

Dave & Sue Zabaldano

Joe & Bonnie Zehrung

***The refreshments
served at the General
Meeting are brought by
all the members on a
rotating basis. The
assignment is based on
the membership list.***

The assignment is posted in every bulletin, but some members told me they never notice it. Therefore, the list has been prioritized to up front and center, at least for the time being. This is how it all works, the Woolsey's were the last name listed in the March Bulletin, and so I started out with Mark Worley this month. I usually pick six name places from the member ship list each

month, so check your new membership list you received in March and you can figure out approximately what month your name will come up. Otherwise, remember to check the bulletin.

Refreshment list will now appear top and center on the first page of the bulletin. Remember to check for your name. If you are picked and will not be going to the meeting, let **Hazel Woolsey know at 837-3287** so someone else can be contacted to replace you or better yet, you can contact another club member and arrange to trade with them!

Program for April

By Dave Kleesattel

The scheduled program for the CCM&GS April **General Meeting** is a slide show titled—

"The Al-Can Ain't What It Used To Be", presented by Ms. Phyllis Malicki of Benicia, a member of the Vallejo Gem and Mineral Club. This promises to be an extremely interesting show of the sites

and wonders that can be seen on a trip to Alaska.

President's Message

By Ann Matthews

Wasn't that an interesting meeting we had? I enjoyed Dave's CFMS program on Lavic Siding. Makes me ready to go there again. How about you?

Joe Yarbrough's collection of his Graveyard Point material was outstanding. This is something new we are starting that someone each month will bring something to share. It can be your favorite rocks, a collection you have, your other hobby, your accomplishments or anything you would like to share with the rest of us. We hope it will help us all become better acquainted with each other.

By the time you read this our Spring Social will be over. Thanks Betty Pankey, for arranging the dinner. It is fun to get together to visit and enjoy ourselves.

Don't forget to sign up and take the classes Mary Ann King has for us and plan to go on a Field Trip sometime this summer too.

Lee King needs more participation in Cab-of-the-Month, especially novices. If you take the cab class you will be ready to enter your cab. And, those of you who facet, please bring your entry too.

Mark your calendar now for our show, Oct. 31 for set-up, Nov. 1-2 for the show. We have something YOU can do to make our show a success. It is the only fund raiser for our club and to keep functioning we need the money we raise. The Auction we hold each fall goes to the CFMS Scholarship Fund and is not kept for the club. Sam Woolsey would like an Assistant Show Chairperson so if you would like to volunteer give him a call.

April Birthstone

Diamond Cutting

From Gems and Jewelry
by Joel Arem, c.1988.

Diamonds could not be cut at all if not for the fact that the hardness of diamond is not uniform. The point of an octahedron, for example, is harder than the surface of an octahedral face. Thus, powdered diamond can cut into a diamond crystal and abrade its surface because the powder will always contain some particles oriented in a "hard" direction.

Early diamond jewels were primarily talismans, so stones did not have to be polished and rough crystals were used. The art of diamond cutting originated in Venice in the early part of the 14th century and spread to Paris and Antwerp.

There are several steps in diamond cutting. The first gives initial shape to the stone, and is known as cleaving. Diamond readily splits in directions parallel to the octahedral faces, and cleaving rapidly removes unwanted material or separates rough into portions which are separately fashioned.

An alternative to cleaving is sawing, a step that is also useful in removing flawed areas from a diamond. A modern diamond saw is a small disc of phosphor-bronze whose edge is impregnated with diamond powder. In times past, sawing was done with a length of fine wire, a tremendously laborious and time-consuming job. It is reported that it took almost a year to saw the 410-carat Regent Diamond in half. Today the operation would require only a few days.

Next step, called bruting, consists of rounding the corners of the octahedron. This was originally done by hand with a diamond tool called a sharp, and is done today by machine. The modern equivalent of bruting is called rounding up. Small flaws can also be removed in the rounding-up process, and weight loss kept to a minimum. Occasionally a small portion of the original

diamond crystal surface is left on the girdle of the stone. This area, called a natural, indicates that little material was wasted in cutting, although its presence is not desirable on a finished diamond.

After rounding up the diamond is faceted. The table facet and the first 16 facets (eight on top, eight on the bottom) are put on by the blocker or lapper. Diamond faceting is a precision art, and the cutting wheel, which is a cast-iron lap, must be carefully balanced and running true. The diamond cutter relies on his eye to correctly proportion and finish the stone.

Next the brillianteer places the final 40 facets, and polishes them. Brillianteering requires more skill than blocking, and an experienced craftsman can often correct small errors made in blocking. The final step in diamond cutting is a careful check of the work, and a thorough cleaning by boiling in acid to remove all traces of oil, dirt, and diamond powder.

The most popular diamond cut is the round brilliant, a cut often credited to a (perhaps mythical) 16th Century Venetian lapidary named Vincenzo Peruzzi. The natural shape of the

octahedron lends itself to a rounded form with a pointed bottom and flat top, but various proportions and angles could be used. Only in the 20th Century has modern mathematical theory, combined with centuries of trial-and-error experience, revealed a set of ideal proportions and angles for extracting the maximum brilliance and dispersive color from a diamond.

Membership

By *Jim Bufton*

Birthdays

Mary Jernigan	4/1
John Owen	4/1
Alek De Wilde	4/5
Shirley Schleif	4/6
Al Schleif	4/16
Sharla Cane	4/17
Sam Johnston	4/18
Elaine Brown	4/26

Anniversary

George & Ann Matthews	4/3
John & Rana Owen	4/3
Jim Hurst	4/3
Charles & Brownie Cameron	4/19
Richard & Betty Pankey	4/25
Darrel & Elaine Brown	4/26

Field Trip Chairman's Report

By **Dick Pankey**

Field Trip Calendar

April 6 Stories In Stones, Angels Camp, CA. Contra Costa M&GS. Contact: Dick Pankey at 925-439-7509, dickpankey@juno.com

April 6 Calaveras Co., CA for Bird's eye serpentinite. Amador Co. Club. Contact Daryl Shelly at 209-296-0635, darylshelly@volcano.net

April 12 Soapstone Ridge, Coulterville, CA for Soapstone. Calaveras Co. Club. Contact Will Corey at 209-383-5037

April 12 Rattlesnake Bar, Folsom Lake, CA for common opal. Roseville Rock Rollers. Contact Jim Barton at 916-773-0458 or geologist1@surewest.net

April 25-27 Afton Canyon, Cady Mtn., east of Barstow for Agates, Jasper, Jaspagate, Rhombohedral Calcite Crystals, Saginite, Petrified Wood, Stalactites, Fluorite, Opalite and much more. CFMS-South. Contact Bob Fitzpatrick at 909-845-3051 or rurocky2@aol.com

May 2-4 Snyder's Pow Wow, Valley Springs, CA. Field trips for Moss Agate and Moss Opal - 5/2&3; YOTMC potluck & auction - 5/2; NBFT potluck - 5/3

May 11 Clearlake area, CA for a geology study trip. Amador Co. Club. Contact Daryl Shelly at 209-296-0635, darylshelly@volcano.net

May 22-25 Tri-Federation Rockhound Rendezvous. Texas Springs, near Jackpot, NV for limb casts, bogwood, snakeskin agate, etc. CFMS/NFMS/RMFMS. Contact: Dick Pankey at (925) 439-7509 or dickpankey@juno.com

May 24-26 Austin, NV for fluorite, jasper, verisite, agate, turquoise, and more. El Dorado Club. Contact Barbara & Jim Terrill at 530-676-2375 or rockit@directcon.net

June 14 - 15 Fairview/Fallon, NV area for geodes and rhyolite. Nevada Co. Club. Terry Bartels at 530-346-8345 or terrybartels@hotmail.com

June 20 - 22 Elko, NV for fossils and petrified wood. Fossils For Fun. Contact Debbie Bunn at 916-929-6665 or fossilsff@aol.com

More information,

fliers and details available from Dick Pankey at the meetings or call 439-7509 or e-mail me at dickpankey@juno.com.

Field Trip Chairman's Report

North Bay Field Trip Spring Meeting

The Spring Meeting of NBFT was hosted by the M&GS of Castro Valley on Saturday, March 1st. This was a shorter than usual meeting because we did not have a program nor potluck lunch. This business meeting was short mainly because there was only one NBFT club sponsored trip announced - our trip to Stories in Stone. Other clubs mention trips that they were considering but not planned nor scheduled. Fortunately COOP has a good list of scheduled trips for this year. **Hazel Woolsey** resigned as Liaison to COOP and was replaced by **Bill Gissler** from Santa Clara Valley.

Snyder's POW WOW

This is a great event for the whole weekend or for just a day trip. Valley Springs is only about 80 miles from

Concord out Hwy 12 past Lodi. Snyder's Pow Wow is a mini-Quartzsite with over 200 dealers, field trips, Indian pow wow, old time chuggers, and much more. If you have never been before ask an old timer or me about it. It is an event for rockhounds and the whole family.

As we did last year we will be camping with Ye Old Timers Mineral Club. All club members are invited and encouraged to camp with YOTMC/NBFT. This is "dry camping" in the pasture immediately adjacent to the southeast corner of the Dealer area. Camping is \$10/night but by camping with NBFT it will only be \$8/night. Stop at the registration tent and tell them you are camping with NBFT, and then follow the signs back to our camping area. We will sign you in and collect your money.

We will have two potluck dinners during the weekend. The Ye Old Timers will hold their annual potluck dinner at 6:00 and auction at 7:00 on Friday evening. The NBFT potluck dinner will be on Saturday evening at 6:00 PM. People that come out for the day only are invited to stop by the YOTMC and NBFT encampment to relax, visit and sit a "spell".

Tri-Federation Rockhound Rendezvous May 22 – 25, 2003

The Northwest, Rocky Mountain and California Federations of Mineralogical

Societies are hosting a Tri-Federation Rockhound Rendezvous and Field Trip to Texas Springs, NV, over Memorial Day Weekend 2003. The Texas Springs area is well known for spectacular pink agate limb casts, as well as, other agate and petrified wood. Texas Springs Canyon is located approximately 25 miles southeast of the town of Jackpot in the northeast corner of Nevada. **Dean Richardson** from the Rocky Mountain Federation will guide us to several of the major collecting sites. In addition to the collecting trips we will have potluck dinners, happy hours, evening campfires, tailgate displays and a great rockhound get-together.

On Friday and Saturday afternoons we will conduct our Tailgate Displays. We will have rockhounds from all over the western United States that I am sure have collected some unique and interesting material from their home area. Bring along

some specimens to show and share at the tailgate display. This will also be a good time to conduct the "map exchange". Map exchanges are easy – to get a map you have to give a map. Before you leave home prepare a **good, detailed** map of a good, unique or little known collecting area that you are familiar with. The map should be a detailed hand or computer drawn map with accurate mileages, GPS coordinates are very desirable, and be sure to note collecting site details and campsites where appropriate. Bring along as many maps as you would like to receive. I plan to bring 100 copies of my map. I am sure there will be a lot of informal exchanges of collecting sites, GPS info, and sharing of great places to go and see.

Afton Canyon Field Trip

Here is a late addition field trip from CFMS Field Trips-South. Field trip to the Afton Canyon area on April 25th, 26th & 27th where we will be collecting on the Northeast side of the Cady Mountains. This area affords many spectacular peaks and canyons containing an almost endless variety of cutting materials, such as all types of Agates, Jasper, Jaspagate, Rhombohedral Calcite Crystals, Sagenite,

Petrified Wood, Stalactites, Fluorite, Opalite and much more. The desert is beautiful this time of year and we will be in for quite a treat viewing all the wild flowers along the way.

To get there, take I-15 Freeway east past Barstow for 45 miles to Basin Road. Exit this off ramp to the right and go 1.3 miles to a fork in the road. Take the left road and go 3.8 more miles to the Rail Road tracks. The road from freeway to the camping site is OK for 2 - wheel drive cars, trailers & motorhomes. There will be camping just on other side of Rail Road tracks. From the camping site to collecting area the road is sandy in some areas. Cars are not recommended, four wheel drive and pickup should be OK; it's about 1/2 hour drive from the camp to the collecting area.

Friday we will be setting up camp, this will be dry camping, no water, no picnic tables, no toilets, no firewood to be gathered and no fees. It can be warm during the day and cold at night. Bring food, water, warm clothes a camera and firewood. If you need a motel or supplies they are available in Baker and Barstow. Saturday is a potluck, so bring a dish to share and your own place setting. Each night after dark

there will be a camp fire where you can all join together and have a good time roasting marshmallows, telling jokes or just talking about the good OLE times.

Bob Fitzpatrick should be arriving at campsite around midday on Friday. Saturday and Sunday we will be leaving the camp at 9:00 a.m. and drive to the collecting area. Come for the day or camp out with us for the weekend and have a great time. You must observe the AFMS code of ethics and sign a consent and assumption of risk waiver of liability form.

A detailed flier with schedule and directions is available. Contact me for a flier and more information.

April Book Report

By Bill McKay, Librarian

Book of the Month----

The Agates of North America, from The Lapidary Journal. Library No.:#308

This compilation of essays by various authors is a valuable resource for the novice and advanced agate collector alike.

The book gets down to the point from the beginning with a dialogue on just what

an agate is and how it differs from jasper and chalcedony.

Then the reader is treated to a wide variety of subjects including guides to agate producing locations throughout the United States (some with detailed maps), how to cut Fairburns and carve Fire agate, and simple methods for coloring agates used by the Old World German craftsmen among others.

But the topper has to be the instructions on building your very own agate locating device. I must admit that it is quite a technical marvel. In addition, all of the essays are written by old-hand rock hounds whose enthusiasm for their hobby spills through the pages.

Board Meeting March 10, 2003

By Sharon Neuhauser,
Secretary

Meeting opened at 7:30 PM at President Ann Matthews' home, all board members attended. The President read over the mail & minutes of the last General Meeting which were approved, no board meeting was held in February. A motion was made and seconded to join the "California State Mining and Mineral Museum", for \$1.00 per member. Our club being

a member means that free admission for you and your family and a discount at the Gift Store. The membership cards will be distributed when received.

Out going Treasurer Connie Klein met with the audit committee and a missing book of checks was found and 2 outstanding checks need to be deposited. No further action will be taken until Eva Umholtz takes over the treasurer activities in April. Thanks to Connie for a job well done!

Hospitality Chair Betty Pankey mailed sympathy cards to the families of **Lou Hamilton & Harry Kanuck**.

Librarian Bill McKay will buy a book or video to go in our library for each departed member.

Hazel Woolsey, Refreshment Chair, could always use help setting up and **especially with cleanup** at the end of the General Meeting.

Rocks are always needed for grab bags for the Education Show in November so start rolling out those tumblers. **Property Chair Glen Hubbard** discussed cleaning the trailer and storing the wiring at Snyders. **Dwayne Eggleston** has a new

assistant in his jewelry class. Why not join and bring a friend? It was noted and approved that we would donate wiring (power cables) to Snyders for the Old Timers use at the yearly Pow Wow.

1st Vice President Dave K. Kleesattle has a program on "Lavic Siding" for the General Meeting.

Dick Pankey 2nd V.P. reported on many field trips and on some rock talks he gave to school classes recently. It was moved and seconded to purchase 2 different kinds of posters to be used for educational purposes.

Publicity Chair Mary Bufton – the budget for the year will be included in next newsletter for members only.

Membership Chair Jim Bufton had no new news.

Education Chair Mary Ann King has March 19, 26 ready with **Bob Pevahouse** teaching the making of a pretty Easter Pin and **Al Schrief** teaching copper enameling. April has **Mary Ann King** teaching a croquette wire on a spool. **Glen Mackenzie** will do wire wrapping, a very popular class and anyone interested in giving a class

please call **Mary Ann** at 947-1550.

Show Chair Sam Woolsey has the contract set; things are all falling into place for the November Show. **Sam** has decided he needs an Assistant Chair. On tear down, we will not ask to, or tear down skirting on the dealers tables, until dealers are packed and ready to leave. **Sam** has printed over 2,000 fliers for our show, so grab a bundle and start passing these out. It's never too soon.

Federation Chair Bob Pevahouse starts CFMS has a video and slide list on the Web Site for rock hounds and clubs use. Also if you want to put a case in the June CFMS show at Ventura, **Bob** has form for competitive and non-competitive cases. There are no hookups; it's a dry camp near the beach, for capers to the show. There are also advance tickets and anyone can make a mermaid of any kind to bring to the show! Do you get a price if you make or find one?

Lou Hamilton will be placed in the veteran's cemetery at Santa Nella, CA.

Harry Kanuck will be buried at sea.

Historian Ron Fray purchased 3 binders for

photographs of field trips, jewelry classes and any outings of our members.

Washington Mutual requested the new treasurer fill out a new signature card which was completed.

Past President Joe Yarbrough requested that we find the silver & Diablo Dan moulds. **Dwayne Eggleston** may have or know where these items are! **Joe** is also asking people to help him complete his list of past presidents--from 1950 to present. Being no other business, meeting adjourned at 9 PM.

General Meeting

By Sharon Neuhauser

Meeting opened at 7:30 PM with the **Flag Salute** lead by **Glen Hubbard**.

President Ann Matthews asked for a moment of silence in memory of two deceased club members; **Lou Hamilton** who will be buried in the Veterans Memorial Cemetery in Santa Nella, CA and **Harry Kanuck** (The T.V. Science Wizard) who will be buried at sea. Our sympathy to both families.

Al Schrief collected for missing badges. **Hazel Woolsey** announced new visitors, birthdays, and anniversaries.

Second V.P. **Dick Pankey** announced that our bulletin

board will have a list of Co-Op trips and sign up for the lecture of "Stories in Stones," trip to Angels Camp are on the table. A great weekend, or day trip to Snyder's Pow Wow is fun for all and a good way for new members to get acquainted. Evening pot lucks and auctions, music and church service are provided besides daily rock outings, sign up early for trips. The Texas Spring trip to Nevada will introduce you to many rocks and new rock hound friends. The 50 cents rockhound sticker is spreading across country so buy a few and spread the word of our hobby.

Education Chair Mary Ann King announced March 17, 26th for Easter Basket Pin and Copper Enameling, free jewelry class. April will be croquette wire on a spool, May is cabbing. Northern California Bead Society is having a "Bead Bazaar," in the Oakland Convention Center, 10th and Broadway, on March 29, Saturday 9-5.

Federation Chair Bob Pevahouse encourages all to enjoy the AFMS/CFMS Show in Ventura CA., June 5-8th. "Seaside Gemboree" will have one building of dinosaurs for kids and adults alike. Anyone who goes to the Show should bring a mermaid is what we've been told. **Mary Ann King and Connie Klein** have participated at this show. Treasurer **Connie Klein** had no news to report. We all wish to thank her for the time and work she has spent as treasurer. It's a very big responsibility

and we thank her and **Eva Umholtz** too, as she will be replacing Connie in April.

Lee King had a table full of club members rocks. There were 3 cabs and faceted stones to vote on. Stone from Lavic Siding, to go with our Program and Plume Agate stones and cabs cut over 20 years by **Joe Yarbrough**. Some of his material is from a collection of deceased member **Jim Dewitt**.

Librarian Bill McKay had a selection of books on "Jade" and brought in some special request books for Club Members.

Second VP **Dick Pankey** reported that wife **Betty** missed this meeting, as she and class mates were displaying their cut glass projects at the Improv in Pittsburg this weekend. Spring Social is March 23rd, Sunday at 3 PM at Fresh Choice Restaurant, Sun Valley Mall. Find the \$5.99 coupon in Sunday's paper and save. Hope to see everyone!

Secretary Sharon Neuhauser encouraged club members to view the American Star Diamond, a 13.42 carat stone, valued at \$2.3 million, on display for one more day in Orinda, CA. The flawless diamond reflects all white light back to the eye as a perfect burst of rainbow color.

President Ann introduced **Dave Kleesattel** who gave our slide program on "Lavic Siding." Many club members have been to this Mojave Desert site, but for those of us

who have and have not, we viewed many beautiful stones, some we've found and others we heard about for the first time. Couldn't believe our 140 slides show, it went so fast and made lots of us feel right at home! Thanks for the great program **Dave**. **President Ann and Bob Pevahouse** told of some funnily and interesting things that have happened to them at Lavic Siding; but, **Mary Ann King and I** didn't speak up and say a thing about the train whistles we got from Engineers while rock hounding out these along the RR siding.

Show Chair Sam Woolsey announced he had printed fliers for our November Show and has grit for members to tumble rock for the grab bags.

President Ann thanked everyone for coming and to make sure we voted for cab, etc., and to enjoy displays and refreshments. Meeting adjourned at 8:50 PM.

CFMS SHOWS

April 5-6, Hacienda Heights, CA. Puente Hills Gem & Mineral Club; Magic in Rocks; Steinmetz County Park; 1545 S. Stimson Ave., between Gale Ave. and Halliburton Road. 10-5 both days; Bob Hess 562.696.2270

April 5 and 6, Mariposa Gem and Mineral Society. Mariposa County Fairgrounds, Hwy. 140 South, Mariposa. 10 am to 5 pm both days. Dianne Mueller, 209-742-7625

April 5 and 6, Calaveras Gem and Mineral Society.

Angels Camp, Calaveras County Gem & Mineral Club, Calaveras County Fairgrounds, Hwy. 49 just south of Angels Camp. Saturday 10 am to 5 pm and Sunday 10 am to 4 pm.

April 11-13, San Mateo, CA.

Gem & Jewelry Show Inc., San Mateo County Expo. Center. Fri. 12, Sat. 10-6 Sun. 11-5.

April 12-13, Boron, CA.

Mojave Mineralogical Society, Boron High School, 26831 Prospect. Hours Sat. 9-7; Sun. 9-4. Derek English djenglish@ccis.com or David Eyre at 760-762-6575.

April 26 and 27. Santa Cruz, Santa Cruz Mineral & Gem Society;

corner of Center & Church St's; 10-5 both days. **Hubert & Eleanor Drake at hmdrake@packbell.net**

Snyder's 29th Pow Wow show and field trips. May 2 through 4.

Valley Springs, field trips also, 209-772-1265 or www.valleyspringspowwow.com or snyders@caltel.com

May 3-4. Anahem, CA.

Searchers Gem & Mineral Society, Brookhurst Community Center, 2271 West Crescent Ave. Hours Sat. 10-5, Sun. 10-4. Nancy Norlund 714-960-6957 or Karen Fox 714-832-3580.

May 3-4 Bakersfield, CA.

Kern County Mineral Society, Kern County Fairgrounds, Ming & P Streets.

Hours 10-5 both days. Will Morton 661-834-3128.

May 10-11, Reno, NV. Reno Gem & Mineral Society.

Reno Livestock, Events Center Exhibit Hall, 1350 N. Wells Ave. Hours Sat. 10-5, Sun. 10-4. John Peterson 775-356-8820.

May 17-18- Yucaipa, CA.

Yucaipa Valley Gem & Mineral Society, Yucaipa Community Center, Hours 10-5 both days. Henry Cobb 909-795-3716.

May 31-June 1; Glendora, CA.

Glendora Gems. Goddard Middle School, 859 E. Sierra Madre Ave. Hours Sat. 10-5, Sun. 10-4. Mark Thompson 626-335-3814.

AFMS/CFMS SHOW-2003 June 5-8; Ventura, CA.

Del Air Rockhounds presents: "Seaside Gemboree 2003" Seaside Park (Formerly Ventura Fairgrounds) 10 W. Harbor Blvd. this is a beautiful time to visit Southern California.

There will be special field trips for the rare Nipomo Agate and more. Sign up early for the special activities. Come to the show and celebrate America's rocks and minerals from the Atlantic to the Pacific.

Also, attending the show is the only way you will see the life-size Triceratops that will be on exhibit.

Bob Backus (818)347-2056. GemboreeBiz@aol.com

Or the Del Air Rockhounds Publicity Committee at ohmarin@earthlink.net

Faceters Symposium 2003

At the Seaside Gemboree, AFMS/CFMS Convention & Show in Ventura, June 6-7-8.

You are invited to participate in the Faceters Symposium 2003 which will be held at the Seaside Park (Ventura Fairgrounds) at Ventura. There will be ten speakers, hospitality hour on Friday evening, and a Saturday Awards luncheon. Contact **Glenn Klein** at glennklein@yahoo.com

Speakers list from the AFMS Newsletter April, 2003.

Thomas Chatham, son of the discoverer Carroll Chatham will talk about the methods that created the first laboratory grown gem quality emerald.

Ewing Evans on how to polish a competition gemstone.

Dr. Anthony Kamph the Curator of Gems and Minerals at the Natural History Museum of LA County about Minas Gerais in Brazil.

Art Kavan on the basics of cutting and use of mechanical and optical aids.

Ralph Mathewson from Australia on his award winning methods.

Jonathan Rolfe who brought the amazing BATT lap to the faceting world.

Robert Strickland on his latest and well-received Windows version of Gemcad.

Steve Ulatowski on gem mine areas of the world.

Carl Unruh on processes he goes through to facet a 560 carat piece of rough citrine.

Other regional shows.

Rocky Mountain-July 11-13, Casper, WY

Northwest-Aug. 1-3, Kennewick, WA

Midwest-August 15-17, Cottage Grove, MN

A.F.M.S. Newsletter, March 2003.

AFMS Scholarship Foundation News. The Foundation has been able to grant two \$2,000 scholarships per year. The total for each student is generally \$4,000 per student over two years. This last year students in California Federation that received scholarships are:

1st year students

Matthew E. Rioux studying at the University of California, Davis and **Martin Wong** studying at the University of California, Davis.

2nd year students

Lisi L. Lewis and **Aron J. Meltzer**, both studying at San Diego State University.

The AFMS Endowment Fund has received the generous contributions from: **Wendel and Ann Mohr** (EFMLS) and **Fossils for Fun** (CFMS).

Some of the items to be raffled off at the meeting in Ventura is a commemorative Cast Iron Dutch Oven that celebrates the Lewis and Clark Expedition, an Indian-made five strand turquoise nugget necklace with earrings, a channel pendant, an Indian style tomahawk and an intarsia pendant, a 1.5 carat goshenite beryl set in 14k gold pendant. Other donations will be gratefully accepted.

Dee Holland, AFMS
Endowment Fund Chair
hollandd@salmoninternet.com

Missing Funds—An Update

By **Jon Spunaugle**, President

As reported in the AFMS Newsletter last year, the Foundation Officers discovered funds missing from the Foundation's accounts. Further investigation brought us to the conclusion that the funds had been removed from the accounts by the former Treasurer. This information was brought to the attention of the Federal Bureau of Investigation. Based on their findings and investigations, the former Treasurer was indicted in Federal Court in December and a trial has been scheduled for early May, 2003. We remain hopeful that some of the misappropriated funds may be returned to the Foundation.

Chiasto Hi-Lites Newsletter, March 2003

By Ophelia Hicks, Editor

When did you become interested in rocks?

Betty Jerde-Vallejo. Betty had always been around rocks with her family. When she was 12 years old they made a tumbler out of a fruit jar. The instructions were in an old Sunset Magazine.

Brownie Cameron-

Concord. Brownie said she was introduced to rocks when she went on a field trip to collect Lake County diamonds. The important thing she learned on that trip was to carry your own set of truck keys at all times. Her husband, **Charlie** took off up a hill after locking the truck with her purse in it. She had to wait and wait for him to return and she had the children with her. Charlie, Ben Marrow & Ralph Segwik started hunting rocks and took lapidary class about 20 years ago.

Shirley Schleif-Concord.

Shirley met her to be husband **Al** in a Martinez, CA. at a class taught by **Bob Dietrich**. Al talked about the gold mine claim at Mariposa, CA of which he was part owner. They married in 1952 and spent their honeymoon at the

claim. Al laughed and said it was a hill with holes dug all over on it. They are still avid rockhounds. About 1924 when Al was in 4th grade at school he would pick up rocks when he walked to school. He remembers he had a sling shot and one morning hit a power pole – the rock broke and he saw dendrites inside.

Ecology Report

By Glen MacKenzie,
Ecology Chair

(From the middle of the
Anza-Borrego desert)

Subject: Lakeview (Oregon)
Management Report

After wading through 4 pounds of documents and maps related to the above subject, it is a rare pleasure to report that I can find no restrictions to collecting in the public sunstone collecting area.

CFMS Newsletter, March 2003

New AFMS rules for Showing Gem Trees and Scrimshaw.

Gem Trees have been added to Show Division A, Open. For those of you who have learned the fine art of making gem trees at ZZYZX and Camp Paradise, you now

have someplace to show them off.

Ivory banned by the U.S. Government may not be used. Only traditional hand techniques may be used. No mechanical turning, vibrating or heat emitting tools may be used.

The Del Air Rockhound Club, hosts of the 2003 Seaside Gemboree AFMS/CFMS Federation Convention & Show

By **Bob Dearborn**, Del Air
Bulletin, 3/2003

We are extending our invitation to your club members to participate in this combined **Federation Show on June 5, 6, 7, 8, 2003 in Ventura, CA.**

This combined Federation Show will have many displays and talks never seen before. We will also have many Dealers who have not been in this area before.

We are going to have a Dinosaur Room and a Dino Dig area, run by **Paleontologist Marcus Erikson**, who will show his self dug full skeletal model

of a Triceratops and many other Dino Fossils. He will give talks on "Digging Dinosaurs". We will also have on exhibit BLM Dinosaur foot prints from the Mojave Desert (not seen before), rare fossils from local museums and much more.

We will also have **Robert Verish, of J.P.L. Meteorite Recovery Lab.**, giving talks on how he self collected two Rare Mars Meteorites. Mr. Verish will also look at your possible meteorites and tell you if yours is Meteorite or Meteorwong.

With 50 Dealers, many Demonstrations, the J.P.L. Mars Land Rover-Hands on Display, Flint Knapping, camping right on the beach, this proves to be a really good show and we hope you can all come.

Please go to the website GemboreeBiz@aol.com or our e-mail www.afms-cfmshow.org or you can call 1-818-883-7851.

Or talk to Bob Pevahouse for entry forms for Competitive Exhibits, Demonstrator and Lecturer Registry Form, Advance Registration Forms (you can save money by purchasing your tickets in advance.), Guest Display Entry Form, Mermaid Competition Form, or

Seaside Gemboree Volunteer form.

Have you Seen a MERMAID?

Enter your self-made work or self-collected item in the Mermaid contest. We're looking for jewelry, lapidary, sculpture, anything worked in rock, mineral, gemstones, or a combination there of, that depicts a mermaid.

Maybe your Mermaid will win the Grand Prize!

Mermaid competition pieces will be on exhibit from June 4th through June 8th, 2003. See **Bob Pevahouse** for more information.

History of Plumas Eureka Mines-Part Two

Compiled by **George Ross**, State Park Docent.
Submitted by **Sherb Brown**, Contra Costa M.& G.S.

From the beginning both Eureka and Mammoth Mines struggled. They were undercapitalized, working with the near primitive tools of the day, far away from centers of supply or even adequate quarters.

But, in mining practices, both made good decisions under the circumstances. Both companies utilized the experience gained from

Mexican and Chilean gold miners and built Chile Mills or Arrastras with which to grind their ore to free the gold.

Only after establishing that the rock so laboriously blasted loose contained good values did they invest in stamp mills to improve efficiency. Until that time rock was hauled on the backs of mules to the arrastras at Eureka Lake where these slow but efficient mills ground the rock into sand to capture the grains of gold.

The Eureka Company, which had claimed the water rights at Eureka Lake, built a mill there in 1855, served by an ore car rail line from the mine, less than a mile away. A second mill was built two years later, both powered by water wheels as were most California mills. The Mammoth people built a 12-stamp mill on the flat near Jamison Creek, in 1856, and ran rails to it for mule-powered cars of the usual one-ton capacity. Both companies continued to use arrastras and Chile mills as valued backup tools.

Just after mining started, the town of Jamison City sprang up on Jamison Creek, below present-day Johnsville. It quickly earned a reputation for wild times that stuck well into the 1870's, and counted

among its residents a number of ladies call "hurdies," for whatever reason. A usual Sunday pastime involved brawls and fistfights along its one main street.

Mining activities had progressed up and down Jamison Creek, where placer claims supplemented the quartz claims higher up the mountainside. Jamison Creek became famed for its "cement bottom," for the excellent returns in nuggets, flakes and dust found along the bedrock. Often, the shift miners who worked for wages in the dark tunnels, held claims on the stream. (See the *Memoirs of Flavius Josephus Daniels, an 1856 Mammoth miners.*)

Prospecting and mining was, of course, in progress near and far. Strikes were made along the Yuba River watershed and along the Feather's three branches, and in most tributary streams and hard rock outcrops.

Too, land claims were taken up throughout the area, in rich meadows of Mohawk Valley, Sierra Valley, American Valley, and beyond. Where early mining camps had rely on pack trains to bring food and other goods up from Marysville, 8 miles and 3 ½ days away, local farmers soon filled the need to some extent.

The lumber industry, closely associated with mining and its need for timbers to line the tunnels and for rail ties for the ore car lines and for fluming miles of ditches carrying water to power the stamp mills and other machinery, got its start in nearby forests—and outlasted the mines.

Into the 1860's, both Eureka and Mammoth miners exploited the Eureka Chimney from above, drilling into it and blasting the tons of rock away, leaving a deep cut.

They also dropped down the steep side of Eureka Peak a few hundred feet and drove tunnels into the quartz lode. Eventually seven tunnels opened the chimney.

By 1856, the Eureka Company had distributed \$250,000 to its investors, a magnificent return in those days. Discoverers, owners and lessees were said to have taken from \$1.4 million to \$1.6 million from the mine by that time, and her glory days were yet to come.

Early on, from the exposed ledge, the Eureka was mining high grade rock, 60 to \$100 per ton, but values didn't remain that high for long. (Gold was then worth

\$20.67 at the mint; average about \$16 per ounce locally).

The Mammoth also had its successes from the start, but success is a relative term in hard rock mining. As with the Eureka, Mammoth miners worked veins of "remarkably rich" ore early on, but had to put a lot of the earnings back into new tunnels and drifts.

Together with the activity of these two major companies, placer workings along Jamison Creek, and growth of the logging industry in support, the 1868-70 population was estimated at 200, mostly male. Total 1870 Plumas County population was 4,489 and 911 Chinese.

By that time, just a few of the original discoverers and stamperders were in charge of Gold Mountain mining. Both Eureka and Mammoth properties were in other hands, and Bill Elwell was barely hanging onto the Seventy-Six, even after locating an exciting \$130-a-ton ledge.

Indeed, a major change had come about, principally at the hands of John Parrott, a S.F. banker, who first took over the Eureka mine for its debts, then foreclosed on the idle Rough and Ready. Next he acquired the Seventy-Six

in litigation with Elwell and others remaining in that in-and-out ownership.

Parrott brought in as his mine manager a skilled operator, Louis Christopher, as well as needed new capital. Quite soon Eureka gold valued at \$10,000 to \$15,000 a month was on its way to the mint. The Mammoth Mill and Ledge was also in a state of flux. Its discoverers first sold the mine on credit to Traugh & Co., who took out \$40,000 to \$5,000 then threw it back on the sellers. However, by 1867, Mammoth also came under strong ownership when partners James Thompson and John B. McGee took over. McGee had served a term in the State Senate after rising to political posts locally.

McGee directed the digging of a new 1,600-ft. Upper Mammoth tunnel and began work on a new Lower Mammoth Tunnel; both were to prove successful. The upper tunnel tapped a new lode, the Traugh Chimney; 700 feet below the level of the original surface mine of 1851. It contained a ledge averaging six feet in width of "remarkable rich" rock in 1868.

Mining on Gold Mountain was, at best, beset with special difficulty. Snow shut

mines, mills and tracks for seven months of most years. In dry summers, water from Eureka Lake became a trickle unable to drive the water-powered mills, which were cut back to a few weeks of operation. Nor had the Industrial Revolution yet reached the Wild West. Miners drove hand-held steel drills with four-pound hammers to create holes in hard quartz, blasting it loose with black powder charges. For this difficult, dirty and dangerous work they were paid \$60 a month, probably a fair amount at that time.

The operators fared better. A report in late 1869 noted "the prosperous Eureka company shipped \$13,000 in gold bars by Wells Fargo express to S.F., result of 18 days run with 16 stamps." Gold indeed, in them thar hills.

Successes of the late 60's attracted the next major development. The Sierra Buttes Gold Mining Co. Ltd., a London-based company, made Parrott an offer he could not refuse and bought him out for \$1 million, then acquired the Mammoth and thought they owned the whole mountain until Bill Elwell popped up again waving a piece of paper. He had acquired a "northeast extension" of the Mammoth quartz lead and

started to dig a tunnel while incorporating a new mining company. The British bought him out for \$50,000. Reason enough to name a mountain for him.

At the time of the sale, the Eureka mine was employing about 70 men for eight months of the year. Jamison City of 1872 was still describable as "quite a lively camp" of about a dozen buildings of which six were salons, and Sunday was a day of revelry and fisticuffs.

Things were soon to change. Shortly after the takeover by the Sierra Buttes Company on May 1, 1872, one of the two stamp mills at Eureka Lake gave up the ghost, collapsing into the deep ravine below the dam. Undaunted, the new ownership quickly set about building a new and much improved 40-stamp mill at much better location, near the mouth of the Upper Mammoth Tunnel. This necessitated enlargement and re-timbering of the tunnel and development of an entirely new town, Eureka Mills, high up on the mountainside some 1,200 above old Jamison City.

The new structure, named Mammoth Mill, cost between \$111,500 to \$130,000 to build, but was so located with reference to

Upper and Lower Mammoth Tunnels, it allowed miners and mill workers to stay at work through out some winter months.

Meanwhile, during the first four months of British operation from May to August, 1872, the old mills at Eureka Lake had produced bullion worth \$74,045. the new mill went into operation in 1873 and the town of Eureka Mills soon became a substantial community with a boarding house for 200 single miners, a school, a church, two stores, a hotel with a saloon as well as two other saloons, a livery stable, blacksmith shop, company offices and several homes for miners with families.

Upper Mammoth Tunnel was enlarged to 7 ft. in width and height and extended 300 ft. to 1,600 ft. The company built a steam-driven saw mill running two big circular saws near a grove "of timber, west of Jamison." They made one excellent move when William Johns, operator of the company's Sierra Buttes property, was put in charge additionally of the Eureka operation. In his first year, production of gold from the Eureka and Mammoth mines doubled.

It's probable that new methods and new materials were at this time entering

into mining productivity. Exact records do not exist to show when pneumatic drills and stick dynamite came here to permit a shift of miners to blast loose more of Eureka Peak's rock, but these things did occur and probably at about this time.

And, under William Johns, Plumas Eureka mining did become highly efficient. Ore with the average value of only \$12 a ton—two-thirds of an ounce of gold from a one-ton ore car—was now being processed at a profit of \$7. Under Johns' direction the cost of mining a ton of rock was cut to just \$3.35, and the cost of milling that same ton dropped to 35 cents. From 1872 the now-consolidated mine produced a profit even when values fell to \$6 a ton. Part three of this series tells you how.

Falling Rocks

From **the Tumbler**, Marin Mineral Society, 2/2003

To us rockhounds, road signs stating "Watch for Rocks" have a special meaning. We look twice at the pictorial signs showing rocks falling onto the highway, wondering if they're geodes or petrified wood, or just leaverite. I recently came across a web site that compares road signs all over the world, with a page that assesses falling rock signs! Check it out at

www.elve.net/rrot09.htm.

The different variations on these signs are analyzed in great detail, and many photos are included.

The Tale of Tektites

By **Richard Jakiel**

Published in "Tips and Trips", June 1997-via *Mineralog*, December, 2002, via *Gem-N-I*, March 2003.

An angry false dawn looms over the southwestern sky. Moments earlier, a flash brighter than a thousand suns illuminated the Cretaceous landscape as an asteroid the size of Manhattan Island slammed into a shallow sea. The blast has the strength of 250 billion Hiroshima atomic bombs, temporarily ripping a hole in the atmosphere and gouging out an immense crater. Even a thousand miles away, the ground shakes with such violent intensity that the entire surface undulates like a wave-swept ocean. The sky erupts with heaven-born fire, as blobs of partially molten rock strike and ignites the vegetation below. A massive firestorm now sweeps across the wrecked plain, killing the earthquake survivors. It is the death of an age and the birth of another.

Sixty-five million years later, the great Chiexulub crater

Seen any Tektites lately?

By **Dr. Rolfe Erickson** from the March, 2003 CFMS Newsletter

Dear members of the California Federation of Mineralogical Societies,

I am a geologist at the Sonoma State University studying a possible tektite fall in Sonoma County.

We presently have three occurrences of the glass objects in question, and I want to ask the assistance of CFMS members in finding more. I would like you to publish my request in your next Newsletter. Hopefully, one or more of your member societies will have someone who has seen such objects. Thank you for your consideration of this request.

I am engaged in a hunt for a particular rock type in the Sonoma County area, and want to enlist your help in finding more occurrences of it. The material in question is tektite. Tektites, as you may know, are small glass bodies up to a few inches in diameter that are generated in large numbers in asteroid impacts. Impact melt is thrown into space, breaks up into zillions of small drops which chill to glass, and these reenter the earth's atmosphere, heating and

melting their surfaces as they travel back to the surface.

The glass bodies of tektites are usually ovoid to platy, but other shapes also occur. The local ones are black. Their surfaces are pitted and grooved from partial melting on re-entering the atmosphere, and they look rather like peach pits or walnuts.

I now know of two localities in Sonoma County west and northwest of Healdsburg where large numbers of these objects have been collected. Tektites in general are widely distributed in strewn fields up to thousands of miles across, so they should exist elsewhere in the county and beyond.

Please contact me if you have ever seen anything like these objects. I will be glad to come look at what you have. Call me at 707-664-2296 or e-mail me at rolfe.erickson@sonoma.edu or—a letter to:
Rolfe Erickson,
Geology Department,
Sonoma State University,
Rohnert Park, CA 94928

Thank you for your help.

Editors Soap Box

By Kenneth Evans, Gem-N-I Newsletter, March 2003.
Santa Rosa M.& G. Society

At last months meeting, Role Erickson from the Geology Department at Sonoma State University was our guest speaker. He brought to our attention the very likely possibility that our area experienced what is called a "strewn-field" of tektites at some time in the distant past. Tektites are considered to be terrestrial products. Paul (a member) has been told by a friend who has a grape vineyard south of Healdsburg that he has discovered many of them over the years. We have been given permission to try our luck in finding some in his vineyard.

Ocean Jasper

Excerpts from Gem-N-I from [www-via the Mineralog](http://www-via-the-mineralog.com), October 2002.

Every year new rock and gem finds are brought to the Tucson Gem & Mineral Show in Arizona. New discoveries brought to market are usually new deposits of an already known material. It is rare that a really new material is found. Ocean Jasper fits the description of a truly new jasper.

Ocean Jasper is an agate by the standard definition (agate being translucent and jasper being opaque). Ocean Jasper is rarely opaque. It was

decided to call the material a jasper because rhyolitic patterns have been associated with the jasper category in the past and because "jasper" is listed as the mineral resource in the mining claims owned by Madagascar Minerals.

The word (Ocean) comes mainly from the location at the edge of the sea, along the northwest coast of Madagascar where the deposit was found. The forms in the rock itself are also suggestive of the bubbling surf of the sea.

This new rock has been found along the northwest coast of Madagascar after years of unsuccessful searching. The deposit formed as a rhyolite flow but has been completely solidified. The rhyolitic eyes or orbs come in an astonishing array of colors and color combinations.

The background can be white, pink, green, red, or yellow. Botryoidal formations as well as white and deep green drusy are also common. Small pieces of this jasper have been brought to market over the years but no one could identify the source until **Paul Obenich** organized a systematic search of the northwest coast of Madagascar. The deposit

has been discovered at the edge of the ocean. It can only be seen and collected at low tide. The area has no road so the material must be transported to civilization by boat.

Mineral Madness

From the Rollin' Rock, March 2003 of the Roseville Rock Rollers. From the Rock Rattler, 2/92, Ammonite 1/02

Itacolumite-the Rock that Bends.

Itacolumite is a metamorphic rock. The rock is a most extraordinary kind of sandstone and will bend under its own weight and slabs of it will bend even if the slabs are thick. It will bend and when turned over will bend in the opposite direction. No known practical use has been found for this bending rock, but it is a source of gold and some diamonds in Brazil and India. It is also found near clay with diamonds in it in these countries.

The rock's flexibility is caused by symmetrical quartz grains which interlock and, therefore, rotate against each other when it bends. There is also some mica in it that helps as elasticity for the bending. Minerals of chlorite and talc are also found flexible. Itacolumite is

porous to some degree from the water running through the veins in the rock.

Magnetite in Butterflies

From the Rollin' Rock, March 2003 of the Roseville Rock Rollers, from the Rock Rattler 2/92, Ammonite 1/02

The mineral magnetite, used in compass needles, has been found in Monarch butterflies. Could this discovery help explain the well-known yearly migration of this species from eastern North America to Mexico?

There's Wax in Them There Hills

From the Rollin' Rock, March 03, via the Glacial Drifter, via Rockwood Rockhound 10/02.

A long time ago if you wanted a candle, you went to a beekeeper. With this wax and a wick you made a candle. In modern times candles are mass produced from paraffin which is a commercially refined product of petroleum. What is not widely known is that wax can also be mined! There are very few places where wax has been mined on a commercial basis because of the quantities available. A location in Austria was the only place where wax was being mined

in this century until a discovery was made at Soldier Summit, Utah.

The wax is related to petroleum and is called ozokerite. It is apparently a high quality form of natural paraffin, developed from the residue of crude oil percolating through fissures in rocks. Compared to beeswax and man-made paraffin, its melting point is much greater (between 155 and 190 degrees.)

Ozokerite was sometimes found in large veins that were almost 100% pure. The majority, however, is found in a brecciated form bound up with sandstone and shale. Once mined, it must be crushed, then dumped into tanks of boiling water where the wax is skimmed and poured into molds. The "wax belt" of ozokerite covers an area of about 12 miles in Utah. Large tailing piles from the mining operation of the American Ozokerite Company are strewn alongside U.S. 50 near Soldier Summit.

Abe a Rockhound?

Via Gabber Gabber and Rocky Echoes via the Rollin' Rock

Abraham Lincoln may have been a rockhound. In the Museum of Iowa Wesleyan College, Mt. Pleasant, there is a small cigar box partitioned with

cardboard, marked "collection of rocks made by A. Lincoln," and an alumnus of the college remembers Lincoln's signature was written on the corner of the lid.

How did the box get there? Senator James Harlan, who was the College President, was also a member of Lincoln's cabinet, and Lincoln's son Robert married Harlan's daughter, Mary. She spent much time, especially in Mt. Pleasant, at her parent's home with her children. The home was located just across the street from the campus.

Later when Harlan's home was broken up, the box was found and placed by someone in the mineral case at the College. As a young rail-splitter, spending much time outdoors, in close contact with nature, it would not be unreasonable to believe that his keen intellect and powers of observation may have directed Lincoln's attention in the direction of rock collecting.

Did you know?

That the Lincoln Memorial in Washington D.C. is sprouting stalagmites and stalactites in its basement? This phenomenon is caused by water seeping through the marble and carrying minerals with it. Through the years the formations have grown several feet. When the Memorial was built, engineers sank 122 steel cylinders into bedrock about 50 feet underground. The base of the Memorial is set high above

ground on a rectangular platform, thus forming a cavernous space beneath the floor. This is where the stalactites and stalagmites are growing.

Sand Dollars

From excerpts from Ricketts & Calvin "Between Pacific Tides, 1952".

Sand dollars occur in tremendous numbers in quiet water sandy beaches. Their round shells are 3 to 4 inches in diameter, very flat, and colored a deep purple. They are urchins, but their spines are only about 1/16 inch long and so closely packed as to make the animal look and feel as though it were covered with velvet. Their tube feet are visible to the naked eye if one looks closely enough. The five-pointed design on the back, another urchin characteristic, is visible in the living animal. But is more obvious in the familiar white skeletons that are so commonly cast up on exposed beaches as to lead many people to believe that the living animals must occur nearby. Only in deep water. The sand dollar avoids surf at all times and will seldom be found alive. When a low tide leaves the animals exposed they will ordinarily be found lying flat, partly or completely buried. When still water covers them, they stand vertically, with 2/3 of their disc buried in the sand. When there is a current, they lean away from it at an angle that is uniform throughout the entire bed and apparently in direct

proportion to the strength of the current.

Two species occur on this coast. The common form from Alaska to Lower California is *Dendraster excentricus* with the star design off center and consequently a bit lopsided. There are great beds of them in bays from Puget Sound to El Estero de Punta Banda. The other species, *Echinarachnius parma*, is even flatter and is more symmetrical, the pentamerous design centering at the apex of the shell. It is a circumpolar form known on the coast from Alaska to Puget Sound.

Are Those Sparklers Real?

Via Pegmatite, the Treasure Trove, and the Peninsula Gem & Geology Society, Los Altos' Petrograph

The distinction between the two minerals we know now as diamond and quartz in its transparent, colorless form was not at all clear until the advent of chemistry as a science. It should be remembered that not until the latter part of the 18th century, just before the French Revolution, was it conclusively established that diamond was in fact carbon.

The pioneer chemist Antoine Laurent Lavoisier (1743-1794) demonstrated this fact, burning diamond to form carbon dioxide. Additionally, it was not until 1796 that the English chemist Smithson Tennant (1761-1815) proved that diamond consisted solely of

carbon. Then it was only in 1824 the Jons Jacob Berzelius (1779-1848) was able to isolate the element silicon, thus proving that quartz was not an elementary substance.

This is a rather late date, considering that silicon is the second most abundant element in the earth's crust, after oxygen, the other component of silica or quartz. It was not until 1854 that Henri Etienne Saint-Claire Deville (1818-1881) succeeded in obtaining crystalline silicon, the substance upon which so much modern technology is based.

Now, however, we know beyond any legitimate shade of confusion that diamond, no matter how dull, and quartz, no matter how sparkly, are totally different substances. There is therefore no excuse for using the term "diamond" accompanied by a place name, Herkimer or Pecos, without making it very clear to everyone that it is quartz, and bears no relation to true diamond.

Starry Skies

Discover via Petrograph

Last year's spectacular shooting stars that kept flashing through our skies will not return this year. However, we will get a pair of total lunar eclipses, in May and November, and an amazingly bright Mars. Never in recorded history has the Red Planet come so near as it will this August. Only 34.6 million

miles away. Rising at sunset it will loom high at midnight fifteen times as bright as the leading stars of summer.

Uranus, also at its closest to Earth, is easy to find just a few degrees away from Mars in August. Venus, usually our brightest planet, will have set some three hours after sunset in January, at its most western position. Jupiter is going to be shining its most brilliant from February through the year, rising at sunset. In December, Saturn will reach opposition with its rings open wide, the best view of the planet in three decades.

This leaves just the man-made 'stars'. As the Space Station expands, it is growing noticeably brighter when it passes overhead. To know when to look, check out NASA's spaceflight.nasa.gov/realdata/sightings

There'll also be a flurry of moon shots and Mars' probes to watch over head.

Mineral Group of the Month: Amphiboles

Lapidary Journal via Petrograph

The amphiboles are important rock making minerals, one of a pair of somewhat parallel series. The other series is the pyroxenes both groups are the black constituents in rocks like granite, schist, and gneiss.

They are complex silicates with variable percentages of calcium, magnesium and iron; with hydroxyl, separable as water; and sometimes sodium calcium and/or titanium. They may form in igneous material and may form under the metamorphosing conditions of heat, pressure and mineralizing volatiles. Hot solutions with dissolved silica can invade a dolomitic limestone and a calcium magnesium silicate could grow in place of some of the carbonate. Depending upon the original composition of the rock and the invading solutions, the mineral that grows might be tremolite, the calcium magnesium amphibole; actinolite, a green amphibole, which is the same plus a little iron; and hornblende, a black amphibole, which is quite complex, with sodium aluminum and sometimes titanium.

Tremolite is colorless and white to light or emerald green or hair brown. Gemmy tremolite is occasionally found, in metamorphic limestone areas, its grass green elongated tubular inclusions making it more suitable for cat's-eye cabochons than faceted stones. This type of material is strongly pleochroic, parallel to the elongation.

A pink-violet manganiferous variety, hexagonite, is most beautiful and clean cutting.

The characteristic shape of a tremolite crystal is four flattened prism face, with easy prismatic cleavage. Hardness of 5.5, but tough. Nephrite jade

can be carved because of its finely crystalline structures in haphazard assemblages of compact crystal masses. The amphibole needles are so interlocked that no single cleave persists in one direction, long enough to weaken the mass.

Actinolite, in its most compact form, is essentially nephrite jade; as it becomes paler in color, it grades into tremolite, which lacks only the iron that darkens and greens the actinolite.

Note that jadeite, the 'other' jade, is a member of the hydroxyl-free group of similar minerals called pyroxenes.

Olmec Jade Source Found

From Marin Mineral Society Tumbler 2/03 from **SF Chronicle**, May 2002.

Hurricane Mitch ravaged Central America in 1998, destroying numerous homes and villages, and killing thousands of people. The hurricane also caused extensive flooding and countless landslides. Certainly there could be nothing good to be gained from this occurrence.

However, some time after the storm had passed, pieces of an unusual blue-green jade began turning up in

Guatemalan shops. The stone was the same as that carved by ancient Olmec and Maya tribes in pre-Columbian Mesoamerica (1000 to 400 B.C.) where Mexico and Guatemala are located today.

Although many of the ancient carvings exist, there was no knowledge of the source of the jade, despite decades of searching for it. Apparently the hurricane had exposed this long-lost deposit, but where?

Over the next two years, teams of scientists from several American institutions combined local inquiries with extensive jungle searches and eventually found the mother lode in the mountains of Guatemala.

The outcrop area is extensive – on the order of 1,000 to 1,500 square miles – and contains signs of ancient occupation including mining pits, pottery shards, and a stone-paved road. Although most of the deposit is not gem quality, it does contain lenses of translucent material suitable for jewelry.

While the discovery could greatly benefit the lapidary and jewelry world, it is also a very important historical and geological find. Consequently, the exact location is undisclosed. A

number of international scholars and institutions are vying to work with the Guatemalan government to protect and study this valuable find.

Mineral Hardness

Excerpt *Rock & Gem* via Petrograph

Rockhounds are familiar with the idea of using the hardness of a mineral to aid in identification. Most are using the old non-mineral scale of fingernail (2.5), penny (3), knife blade or glass (5.5-6), hardened steel file (7+) and synthetic silicon carbide (9.4).

For a thousand years or so, the variation in mineral hardness was attributed to the presence of water, the more water present the softer the mineral. Indeed, 'drying' was considered to produce a harder gemstone. In the 1600's miners realized hardness and contained wetness were not related, and they scratched material to get a relative hardness.

In 1812, Freidrich Mohs, a mining professor in Graz, published the first orderly listing of mineral hardness. He listed ten familiar minerals, in order of hardness, with '0' being a state of fluidity. Since the 1920's, scientists have recognized that variation in mineral hardness is caused by variation in the strength of

atomic bonding. Large atoms and ions tend to form softer materials, and hard materials contain smaller atoms. Atomic structure contributes to hardness, uniform cubes being harder than sheet-like structures. The importance of atomic structure is apparent in certain crystals which vary in hardness when scratched in different directions.

The U.S. Bureau of Standards adopted another scale, the *Knoop*, which unfortunately requires laboratory equipment. Rockhounds, thus, are using the *Mohs* scale while recognizing it provides neither an orderly arithmetic nor a geometric progression of hardness values;

- Talc 1
- Gypsum 2
- Calcite 3
- Fluorite 4,
- Apatite 5
- Orthoclase feldspar 6
- Quartz 7
- Topaz 8
- Corundum 9
- Diamond 10.

Fluorite at 4 is scarcely twice as hard as talc at 1.

Topaz at 8 is three times harder than quartz at 7.

Diamond at 10 is 3.5 times harder than corundum at 9.

Corundum at 9 is twice as hard as quartz at 7.

Back to the fingernail, penny and knife blade.

Gems From the Kitchen

By **Barbara Snook**, of Napa Valley Rock & Gem Club, via Napa Gems November 2001.

This is the best batter for deep frying any kind of fish, shellfish or even chunks of zucchini. You can easily double it if you are planning to serve more than two or three people. When serving, we usually have some tomato-based fish sauce for dipping.

Beer Batter
 Approximately 1 lb. fish cubes
 3 or 4 T. Bisquick for coating fish cubes
 1 cup Bisquick
 ½ tsp salt
 1 egg
 ½ cup beer
 oil for frying (350 degrees)

Cut the fish into small chunks and roll in dry Bisquick-let stand. Mix batter and dip enough fish cubes at a time to fry immediately in hot oil, turning once. When cooked, remove and drain on paper towels.

Collecting

By **Colleen Hayes**
 Rock N Rose, 10/98
 6th Place, AFMS 1998—
 Poetry Division

*As I sit in my Jeep and stare
 at the map,
 I think to myself, I need a
 cap,
 a bottle of water, a rock pick
 or two,
 and a very large bag, the
 blue one will do.*

*But I sit in my Jeep and I
 stare at the map.
 It's tangled, unfolded, a
 heap in my lap.
 I'm lost, I know it, I should
 have turned right.
 Now I'm aimlessly
 wandering and it's just
 hours 'til night.*

*As I sit in my Jeep and my
 foot hits the gas,
 I figured it out, I'll get there
 at last,
 And find the best spot to sit
 down and dig,
 and maybe, just maybe, I'll
 find something big.*

*And then when I find a
 fossil or two,
 I'll need a large bag, the
 blue one will do.*

Contra Costa Mineral & Gem Society

P.O. Box 4667, Walnut Creek, CA 94596

General Meeting: 2nd Friday of the month at 7:30 pm

First Presbyterian Church, 1965 Colfax Street, downtown Concord
(corner of Salvio and Colfax)

Free parking at the City of Concord garage located across Salvio
Membership fees: Initiation \$5; Regular member \$10; Associate \$5; Junior \$1.

Visitors are welcome! Bring a Friend

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Official Bulletin & Meeting Notice

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