



SLABS & CABS
OFFICIAL BULLETIN OF THE
GULF COAST GEM & MINERAL SOCIETY

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Volume 49

Number 4

April 2010

Next Meetings

Board Meeting
4 May 2010
Downtown Library
6:00 PM- 9:00 PM

General meeting
20 April 2010
Watergarden Room
Corpus Christi
Museum of Science & History
1900 No. Chaparral
Corpus Christi, Texas
6:30 PM

Membership Fees for 2010

Membership dues for 2010 are due in January 2010
We have 4 types of memberships and they are as follows:

Single \$ 15.00
Spousal \$ 20.00
Junior \$ 5.00

This is for any member from the age of 6-17 years Of age
Honorary
Sandra Hinkle , Membership Chairlady

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Young Visitor to Show Petting Rocky

We are on-line

www.gcgms.org

Thanks to Chris Davis of Spurfire and Owen Hopkins
For getting us back up and running! Take a look.

Minutes of the April Board Meeting of the Gulf Coast Gem & Mineral Society

Meeting was called to order by President Kevin Schleicher. at 6:45 pm. The meeting was attended by Board members Art Worley, Kyle Hinkle, Gene Schade, Donna Grimes, Mark Wolbrink, Jerrold and Linda Simpson, and Kevin Schleicher. Club members attending were Dick Cline, Bill and Lois Pattillo, and Joe Grimes.

Minutes:

A motion was made by Kyle Hinkle to accept the previous minutes as published in the Slabs and Cabs. Motion was seconded by Jerrold Simpson. Motion passed.

Membership:

Kyle Hinkle gave the membership report on behalf of Shanda Hinkle. There have been no membership changes since last month.

Shop:

Mark Wolbrink, new shop supervisor, reported that the shop has been very busy lately. He said that the flat lap needs a new disk. Jerrold Simpson said that he would be begin teaching a new cabochon class next week. He also reported that there are often two people working on a Genie at one time. The shop could use one more Genie machine. Art Worley suggested that someone could make one; they are not that hard to make.

Treasurer:

Gene Shade gave the treasurer's report. He gave a printout comparing the income and expenses for the 2009 show and the 2010 show. There was a small increase for the 2010 show. Jerrold Simpson made a motion to accept the report as presented. Kyle Hinkle seconded, and the motion passed.

Education:

Kyle Hinkle reported that the April program would be given by Gene Schade. The program for May will be given by Owen Hopkins. The topics will be announced.

Field Trip:

Kevin Schleicher said the fieldtrip is still on for this Sat. There was some discussion about possible future trip sites.

Show:

Jerrold Simpson reported that one of the vendors needs a \$200 refund because they changed the size of their booth. The Larson's inventory was stolen just before our show. Gene Schade made the motion to refund their payment. Mark Wolbrink seconded it. The motion passed.

Federation News:

Bill Pattillo announced that there was a slot open for a training to learn how to judge display cases.

New Business:

Mark Walbrink was officially appointed as Shop Supervisor to replace Dick Cline.

Meeting was adjourned at 7:35.

Submitted by

Linda Simpson on behalf of Suzy Nick



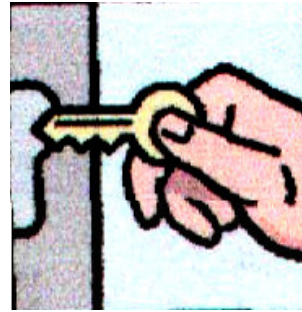
**Gold Plume Agates
From the Woodward Ranch**

GCGMS Lapidary Shop Rules

1. The lapidary shop equipment may not be used by anyone who has not signed a liability waiver.
2. Shop equipment use flat fee is \$2.00 per hour. Sign in on arrival.
Pay Supervisor and sign out before leaving the shop.
3. "Open shop" hours are to be used only by those who have taken the cabochon class or have shown proficiency on the equipment.
4. All children under the age of 17 must be accompanied by an adult trained on the use of the equipment.
5. Supervisor must inspect rock "set-up" prior to anyone starting slab saw.
6. Long hair should be tied back, loose sleeve should be secured, and safety procedures followed.
7. Safety glasses are recommended and are the responsibility of the individual. Some are furnished by the GCGMS, or you may bring your own.
8. The last person to use a piece of equipment before the shop closes is responsible for cleaning that piece of equipment and the work area. This may include tabletop, sponges, aprons, catch trays, etc.
9. Shop Supervisor is the final authority on shop rules and usage.

Revised May 2009

Any Articles, Minutes are other items not received by Thursday Morning 9:00 am After the Board Meeting. Will Not Be Published in That Months Newsletter The Editor



Those with keys to the Lapidary Shop are

Mark Walbrink 361-991-2495 Shop Supervisor
 Jerrold Simpson—361-851-8788
 Cell - 361-877-3073
 Hank Swan—361-993-9861/361-857-2405

Please call one of these when you would like to use the shop. They will not all be available at the same time, and once in a while none of them will be available. Most of the time at least one of them should be able to work out a time and date the shop could be open for you. Remember the club has a lot of good equipment to use. Several different classes are being conducted on Monday evening from 6:00 PM to 9:00 PM. The shop is open during these times for use of the equipment even if you are not involved in a class. Shop is also open Saturday 9:00 Until Noon.



Door Prize for Show

April Birthstone, Diamond

Compiled by Roger K. Pabian, Research Geologist, Emeritus
School of Natural Resources, UNL

Diamond images courtesy of Bob Fixter.

Although diamond is probably the most popular and discussed gemstone, it has probably been in use for a shorter time than any of the other gems that are commonly used in modern times. The reason for this is because lapidaries did not learn to fashion diamond until about the 15th Century when it was discovered that one diamond would abrade another.

India is probably the oldest known source of diamonds but South Africa became the major supplier by the late 19th Century. Historic sources of diamond have also been in Brazil. Review of current literature such as Levinson (1998a, 1998b) show that there have been important diamond finds in California, Colorado, Russia, Australia and Canada.

Diamond is composed of the element Carbon---it crystallized in the isometric system; that is, there are three crystallographic axes that are all of equal length and are perpendicular to one another. In addition to the axial relationships, the crystal can have a center of symmetry, 3 axes of fourfold symmetry, 4 axes of threefold symmetry, 6 axes of twofold symmetry, and 9 planes of symmetry. In a mineralogical text, these symmetry elements would appear as: C, 3A₄, 4A₃, 6A₂, 9P.

An isometric crystal can be defined by numerous forms including a cube (6 faces), an octahedron (8 faces), a dodecahedron (12 faces), a pyritohedron (12 faces), tetrahexahedron (24 faces), a trapezohedron (24 faces) etc. To complicate issues, one form may be superimposed over another such as an octahedron modifying a cube such that the cube appears to have its corners cut off. The superimposition of faces can be quite extreme and an isometric crystal can show several forms superimposed over another. All of these different modifications of the basic isometric crystal can exist within a volume that fills a space occupying one unit by one unit by one unit.

The hardness of diamond is 10 on the Mohs Scale---there is nothing harder. The figure 10 could be said represent the "average" hardness of a diamond. Diamond is not equally hard on all of the theoretical crystal faces that exist in the unit cube above. The dodecahedral faces are just slightly softer than the cube faces or the octahedral faces. If the cube or octahedral faces are 10 hard, then we may think of the dodecahedral faces as being 9.999... hard. It is this fact that makes it possible to shape and polish diamonds. In this figure, the crystal faces marked with d are just a bit softer than the others; those softer faces make diamond shaping and finishing possible.

Diamond crystals have 4 perfect cleavages that are parallel to the octahedral crystal faces. These cleavages are useful to the lapidary as they make it possible to reduce a large, irregular shaped crystal to smaller, more manageable pieces. Apparent planes of cleavage where the stone might break easily are usually selected as separation planes when the crystal is cleaved. The cleavage operation is carried out with a specially shaped chisel and mallet. Many diamonds are now treated with a diamond saw rather than cleaving but the skilled diamond worker still must know the art of cleaving a stone as this is the only some pieces can be handled.

Diamond has a fairly high **refractive index: 2.417**. That figure measures how much a beam of light is bent and slowed down when it enters the diamond. The high refractive index is what causes the diamond to have its **adamantine** luster. Diamond has a very high **dispersion (0.044)**, the ability of a substance to break white light down into its component colors. The dispersion is what causes a faceted diamond to show many colors when it is moved about in the light.

Lapidary hobbyists have finished very few diamonds. There are several reasons for this. First is the availability of rough material. Most of the world's diamonds are sold by a monopoly that makes parcels of stones available to cutting houses at **sightings** that are held only several times a year. The parcels are priced at several millions of dollars each and there is no high grading. The buyer must buy either all or none. In many instances several cutting houses must act together as one to purchase a parcel of diamonds. This effectively eliminates Corner Lapidary Shoppe from the list of potential buyers.



One of the Display Cases at the Show



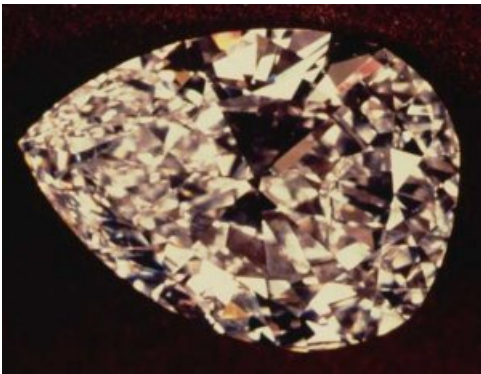
Some of the Many Visitors to Show

On rare occasions, a piece of suitable rough diamond might reach the hobbyist. The typical faceting unit that is used by the hobbyist or even a commercial colored stone lapidary won't begin to handle a diamond. A small hobby unit will have a 1/30 horsepower to 1/15 Horse Power motor for power. The units used for diamonds have at least a one horsepower motor. The typical hobby unit will have a 6 inch or 8 inch lap whereas the units for diamond will have an 18 inch lap. The shaping and polishing of a diamond generates enough friction that a mechanical dop must be used as dop waxes will melt when diamonds are being fashioned. Neutral oil such as olive oil is usually used to reduce friction in diamond finishing.

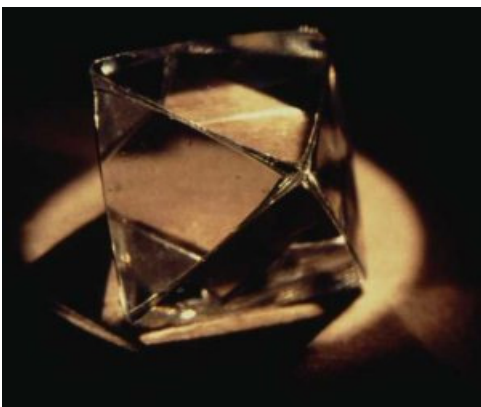
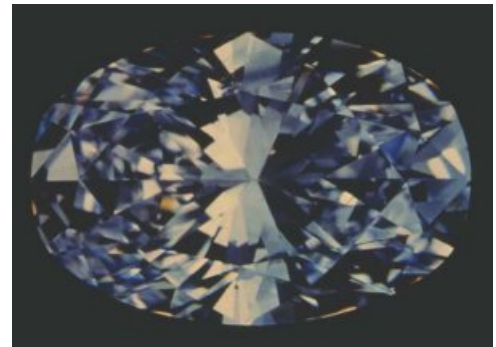
Proportions of the finished stone are important to produce the best result. The diagram below shows the ideal proportions for a diamond; these have been determined both experimentally and in practice. If the pavilion is too deep, the center of the stone will appear dark and if is too shallow, the stone will appear washed out.

A diamond appraiser will determine the weight of the properly proportioned stone that can be derived from a finished stone and use that as the weight of appraisal. The cost of refashioning the diamond to a properly proportioned stone is then deducted from the evaluation. This prevents the lapidary from inflating the price of the stone by inflating the weight.

Diamonds are useful for several geological purposes. Petrologists have thought that the tiny inclusions in diamonds that are commonly called "**carbon spots**" (but rarely are) and include such minerals as pyrope garnet, olivene, and pyrhotite are tiny samples of the earth's mantle, that zone that is about 30 miles beneath the earth's crust. Thus, inclusions in diamonds may provide some examples of the mantles makeup. Some geologists have suggested that the distribution of diamonds between continents shows examples of spreading ocean basins and provides strong evidence for plate tectonics.

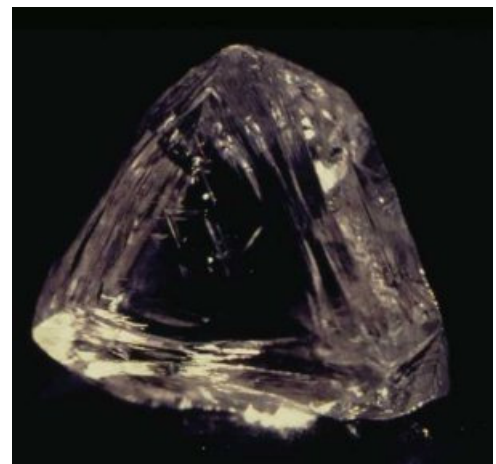


Upper two Photos
Faceted Diamonds



Left Photo
Uncut octahedral
diamond crystal.

Right Photo
Uncut octahedral
diamond crystals.

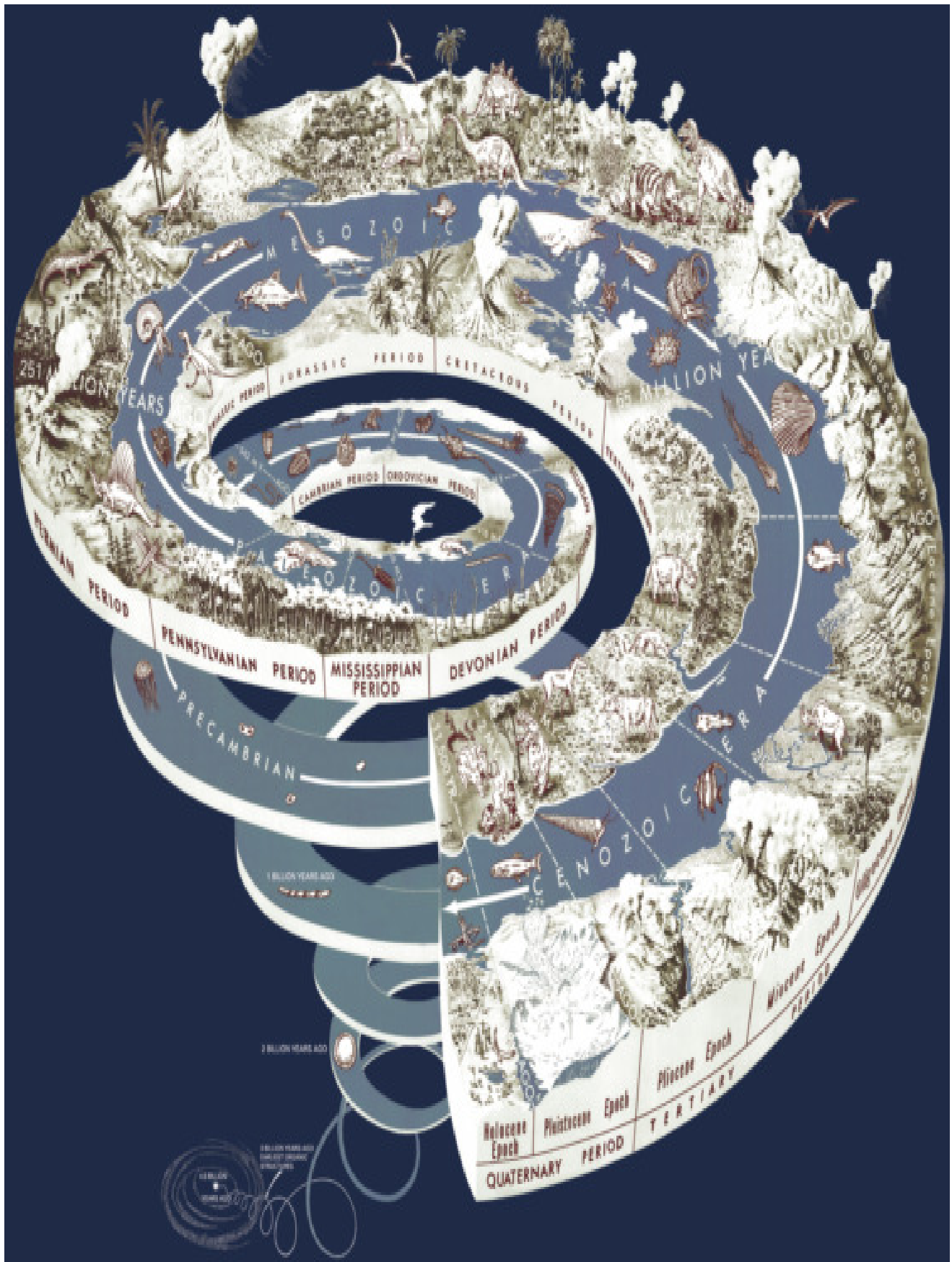




Casa De Oro Tables



Silent Auction Table



Cenozoic Era**(65 mya to today)**

Holocene (11,000 years to today) Modern man radiates, "science" appears and eventually computers and the Internet become ubiquitous; domestic plants and animals 13,000 years ago. **Pleistocene (1.8 mya to 11,000 yrs)** Neandertals appear and disappear; Homo erectus and Homo sapiens appear; Homo sapien speech 75,000 years ago. **Tertiary (65 to 1.8 mya)** **Pliocene (5 to 1.8 mya)** Ape-like ancestors of modern humans (Hominids), the australopithecines **Miocene (23 to 5 mya)** Grazing horses, antelopes appear **Oligocene (38 to 23 mya)**

Radiation of more modern animals: most modern bird forms have appeared; most modern mammals have appeared.

Eocene (54 to 37 mya) First grasses appear, a resource for herbivores; trees thrive. Some modern mammals appear: advanced primates; camels, cats, dogs, horses & rodents **Paleocene (65 to 54 mya)** Flowering plants begin radiation extending through the Eocene. Small mammals radiate

Quaternary (1.8 mya to today)



14 to 26 of 26 Display Cases



Rock Food Table
Rocks That Look Like Food



Not Enough Room For Company
Had to Add an Extra Table

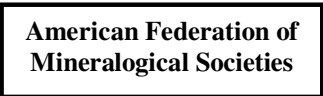

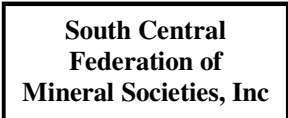



Jerrold Simpson presenting the 2010 Gem & Mineral show grand prize to Mr. & Mrs. Perez at their home in Refugio, TX.



1 to 13 of 26 Display Cases



**GULF COAST GEM & MINERAL SOCIETY, INC.
P.O. BOX 1817, CORPUS CHRISTI, TEXAS 78403-1817**

MEMBER of					
	Meeting	Held the third Tuesday of each month at 6:30 pm at the museum of Science & History 1900 North Chaparral September through May, and at the Lapidary Shop 3933 Timon Blvd., Corpus Christi TX for June through August.			
	Membership Fees	Individual \$15.00 Couples \$20.00 Junior (under 17) \$5.00			
	2010 Officers	President: Kevin Schleicher Vice President: Kyle Hinkle Past President: Suzy Nick		Secretary: Suzy Nick Treasurer: Gene Schade gene@casadeoro.net	
	Board Appointees	Membership: Sandra Hinkle Education: Owen Hopkins Librarian: Linda Simpson Treasurer Gene Schade Show Chair: Jerrold Simpson		Show Publicity: Donna Grimes Shop coordinator: Mark Wolbrink Field Trip Coordinator: Mike McCraw Dealer Chair: Jerrold Simpson	
Standing Committies	Shop coordinator: Mark Wolbrink Field Trip Coordinator: Mike McCraw Federation Liaison: Linda Simpson Historiorn: Frances Marten Librarian Linda Simpson Communications: Suzy Nick Refreshment Hostess; Letty Rodriguez		Bulletin Editor; Art Worley Webmaster: Art Worley E-mail artleew@agates123.com Door Prizes; Gilbert Rodriguez		

Slabs & Cabs
Art Worley
2561 Raintree Trail
Ingleside, TX 78362

Slabs & Cabs Awards
Small Bulletins

2003 4th place

PUBLICATION
2nd 2002 2001 1st
2001-4th place AFMS
2000 9th place SCFMS
1999-8th place SCFMS
1999- 9th place (new editor) AFMS

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