

CALENDAR

- Regular Meeting Saturday, April 24, 1999, 7:30 PM, Bethany Park Shelter House, Near Cotner & Vine Streets. Scholarship Presentation. Show Reports and Summer Events. Coffee and Refreshments.
- Youth Meeting: 7:00 PM, Before the regular meeting.
- May Board Meeting Wednesday, May 5, 7 PM, Kinko's at 48th & Vine
- May Meeting May 22, Bethany Park Shelter--Silent Auction--Bring a special rock related item to contribute and cash to redeem your top bids. Members will provide their favorite desserts to go with the coffee provided by the club.

NEXT LGMC SHOW - MARCH 25-26, 2000, Pershing Auditorium
(Our 42nd Annual Show)

Nearby Shows to Visit

- | | | |
|----------------|------|---|
| April 17-18 | SHOW | Northeast Nebraska Rock Club, Sunset Plaza, Norfolk, Nebraska |
| April 23-25 | SHOW | Blackhawk Rock Club, Colonial Village Mall, Rockford, Illinois |
| April 23-25 | SHOW | Wichita, Kansas, 46 th Annual, Cessna Activity Center |
| April 30-May 2 | SHOW | Central Illinois Gem Club 47 th Annual, Macon County Fairgrounds
Decatur, Illinois |
| May 15-16 | SWAP | Central Missouri Mineral, Fossil, & Gem Society, Fairgrounds,
Rolla, Missouri. (Editor has further information-call) |
| June 12-13 | SWAP | G.I. Earth Science Society, Fonner Park, on the grass. |

Special Notice--**Museum Auction & Sale-** Houghton, MI, A.E. Seaman Mineral Museum will hold a one-day surplus inventory auction and sale on Saturday, June 12, 1999, 9:00 AM to 5:00 PM.
5th Floor, Electrical Energy Resources Center, Michigan Technological University.
Further Information - (906) 487-2572 between 9 AM and 4:30 PM.

1999 REGIONAL SHOW SCHEDULE

EASTERN FEDERATION

August 6-8
New Carrollton, Maryland

CALIFORNIA FEDERATION

June, 18-20
Turlock, California

SOUTH CENTRAL FEDERATION

August 21-22
Bossier, Louisiana

NORTHWEST FEDERATION

June 18-20
Hillsboro, Oregon

SOUTHEAST FEDERATION /AFMS COMBINED

July 9-11
Nashville, Tennessee

ROCKY MOUNTAIN FEDERATION

November 19-20
Tucson, Arizona

MIDWEST FEDERATION

April 10-11
Columbus, Ohio

YOUTH NOTES

from Kay Jurgens

This junior page is designed as a special **THANK YOU** to the junior members who worked so hard at the show, and to those donating time and materials, which made the junior booth possible.

Juniors working at the show included:

- * Chris Adkins
- * Katy Adkins
- * Adam Cooperrider
- * Becky Cooperrider
- * Janelle Jurgens
- * Danny Cromer
- * Emerson Wooldridge

Persons contributing items for the junior booth included many dealers, Brett Jurgens, Ken Kramer, Roger Pabian, Ewald Paul, Marie and Susan Taylor, Susy McMahan. There are possibly other persons I may have forgotten to mention.

We ended the century with a bang, and need to evaluate and plan for next year. We will definitely need more material for the spin wheels and also more adult help. Volunteers for either and/or both are welcome! The material does not need to be valuable. Size counts more than quality with some youth. The scraps from any project are welcome. Adult help is a necessity- special thanks to Ed Ridge and Brett Jurgens who both lended a helping hand in a pinch this year, and to Susan Cooperrider who helped "pack up". Jim and Phyllis' crew once again showed that they are better movers than any national moving company.

We were very pleased to have the help of our newer youth members- the Adkins and the Cooperriders. Without them, we would have been in BIG trouble.

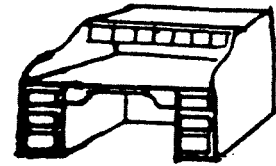
The gem dig was a very popular spot- we had customers returning the second day. It is really fun to see both youth and adults excited about finding a gemstone on their plate. The rock race was also a popular spot. It was a new item for a lot of people which probably means it was the first time they had come to our show.

Both spin wheels were popular. Saturday morning was definitely the busiest time for them, and we will need to be sure to have lots of persons on board for this time slot next year. The raffle was also very popular, and everyone who won a prize was thrilled.

Kay would REALLY like to use the show time to recruit new junior members, but is currently too busy doing the basics of keeping the junior booth supervised and running to recruit. We need to make this a priority if we want to keep the group going. Michelle Crawford was able to talk to several families about signing up so that their children could be junior members. **THANK YOU Michelle!**



From The President's Desk



Hello LGMC Members:

Well the show is over. I've been putting my cases and other stuff away. Looking back at the show, it was a good one. Dealers were busy, the displays looked good and the programs were very interesting, demonstrators and featured exhibits were very good. Attendance was down more than last year.

I want to give a special "Thank You" to the following persons (non-show committee) Phyllis 2 sons, Michael Crawford of Columbia, South Carolina and Peter Crawford and his fiancé Connie of Omaha, Grant Bennett, Paul Brauch, Michael Jurgens, and William Rockel. Second, the Show Committee-Phyllis & Jim Parks, John Harrison, Francis Belohlavy, Jerry Moore, Kevin Schwartzman and Roger Pabian. These are some of the people who were there early Friday to help set up the show. There is one other person that I did not say--it was me 'Man on the Run' my music theme song. The way Friday went for me I don't say any more about it!

As for displays, there were about 75 or 80 at the show. 13 for dealers, 8 for special featured exhibits, 7 for club exhibits, 3 for some of Roger Pabian's group, one from former member and two from his Lapidary Class. The other were filled by 16 club members, 3 first time at our show. **A BIG THANK YOU** to all members who put on a good show.

As for the February Questionnaire, there were 14 returned and 3 verbal. Following is the results:

1. Field Trips-what materials? Agates (8), Fossils (5), Minerals (2), Wood (2), and Lapidary (1).
Where to go? close (1), midwest (1), Nebraska (all), Southeast Nebraska (2), Hastings(1), where they are found(1), upper midwest such as Iowa, South Dakota or Minnesota (1)..
Time? Half day (7), full day (9), long trips(5)..
2. Programs-what kind? Rock (3), Mineral (3), Fossil (2), All kind (2) Lapidary (1), Geology (1), Agates (2), Quartz (1), Silent Auctions, Swaps, Summer Picnics, Hands on (like Robert Fixter's).
Would you like to give a program? Maybe (2), probably (1), no (4).
3. Other things to do? Meeting at Pat Akin's Woodpile, Van trip to Hastings Museum, Ashfall, or other shows.
4. Do you think door prizes help increase attendance? Yes (9), No (2). Some say 'nice ones', some say 'more than one', some say 'if they are real good'.
5. Study Group? Yes (7), Kind? Lapidary (2), gem, mineral, fossil, or work together on a project.

More on Survey in May Bulletin.

Our Program Chairman, David Heffelbower, lost his home to fire on March 30. We club members should help the Heffelbowers for all they do for the club. Perhaps you might contact a Board Member to see how help is needed.

Edward Ridge

“Reflections to Past Centuries”

It's all over but paying the bills and doing the accounting! As Treasurer, I believe that I can safely say that we'll come out with a smile even though everything costs a bit more (in some instances a lot more).

As Editor and club member, I know that it was another great show. Each of the persons on the Show Committee did their job well and with efficiency. Although our Show Chairman could not be with us for the final event, he had done a remarkable job of planning, selecting his back up crew and 'Men in Charge' so that Friday-Set-Up-Day went smoothly. As you may have read on Page 2 and on Page 3 (President's Desk) Pete Crawford once again showed up at the storage garage with his trailer and van about 8 AM with his fiancé, Connie O'Mara and his brother Michael to be sure the 'Props' would be down at Pershing by the time we could take over at 9 A.M. Also at the storage place once again were Roger Pabian and Ed Ridge to do a good share. On the 2nd trip they were joined by Kevin Schwartman and left Connie to keep tabs on Jim and I. (Thanks guys for taking care of our 'Housing & Property'.) More physical assistance would have been appreciated as several persons did double and oftentimes triple duty--(ask 'Man on the run'). Besides those **workers** that Ed mentioned in his message we should say 'Thank You' to Maribeth Milner, new member this year and Lee Harrison, part of J J & L, who assisted in the important job of draping the display tables. Special 'Thanks' to Mildred Belohlavy who once again served as the eyes and ears for getting messages to the right place. It wouldn't be the same without you Mildred.

Our Dealers were the Best, our Demonstrators many and varied, our Special Features were top notch, and our Exhibits were plentiful and filled the space to capacity. As usual Our Youth Booth presented several activities to please the young--and in some instances the older as well. LGMC Membership Booth was well attended and ready to answer the many questions that come up at a show. The Admissions Center was capably tended and each new guest was treated to a friendly smile and courteous assistance. Even the non-club related Food Service seemed better than usual.

During the week before the show special efforts were put forth to make our show a memorable event with our Lincoln Mayor proclaiming March 27-28, 1999 as “**GEM WEEKEND**”. (See the Proclamation and pictures of the event at the April Meeting.)

Just before the opening of the show on Saturday Morning, Acting Chairman, John Harrison, made a presentation to Adeline Nolde and another to Edward Ridge, dedicating the show in their honor. Congratulations to each of you for your constant and loyal allegiance to Lincoln Gem & Mineral Club and your promotion of our annual show.

Our 'THEME' was best carried out by the special displays set up by Bob Fixter and Sartor Hamann and by Bob's lecture program. Also the Past Centuries were very well represented by the huge petrified wood rounds of Norm Balliet and the big tree stumps of Pat Akins. Betty White had a case with examples from the past as did Ed Ridge. In fact hardly anything displayed, except for the talent of lapidaries, and the cases themselves were less than hundreds of centuries old--minerals, fossils, rocks and gems, all of nature's creations.

Now Mr. John Harrison, Show Chairman for the year 2000 AD, how do you propose to top this year's show?

'99 Show Secretary-Phyllis

Diamond, April's Birthstone

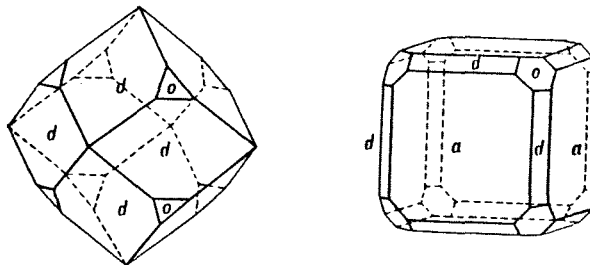
Although diamond is probably the most popular and discussed gemstone, it has probably been in use for a shorter time than any of the other gems that are commonly used in modern times. The reason for this is because lapidaries did not learn to fashion diamond until about the 15th Century when it was discovered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

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 the figure below, 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.

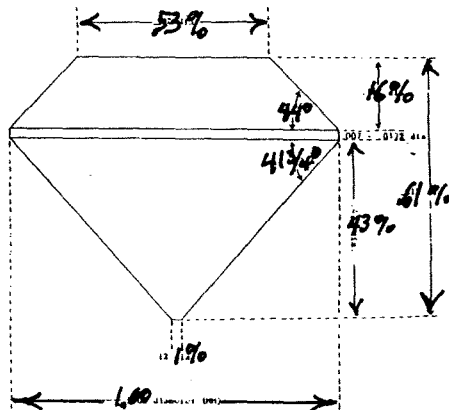
Diamond has a fairly high refractive index: 2.417. That figure measures how much a beam of light is bent and slowed down when it enters the diamond. The high refractive index is what causes the diamond to have its adamantine luster. Diamond has a very high dispersion (0.044), the ability of a substance 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.

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 pyrrhotite 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.

For further reading.

- Gubelin, E. J., 1974. Internal world of gemstones: documents from space and time. ABC Editions, Zurich, 234 p.
- Hurlbut, C., 1963. Dana's Manual of Mineralogy, 17th Ed., John Wiley & Sons, New York, 609 p.
- Schumann, W., 1977. Gemstones of the World. Sterling Publishing Company, New York, 256 p.
- Shipley, R. M., 1971. Dictionary of Gems and Gemology. Gemological Institute of America, Los Angeles, CA, 227 p.
- Willis, B., and Willis, R., 1934. Geologic Structures. McGraw-Hill Book Co., New York-London, 544 p.

Submitted by Roger K. Pabian

1999 ELECTED OFFICERS

President	Edward Ridge, 2507 A Street.	Lincoln, NE 68502	477-8469
1st Vice Pres.	Kenneth Doe, 925 El Avado Avenue	Lincoln, NE 68504	466-4877
2nd Vice Pres.	Jim Atkins, 1333 So. 15 St., Apt. 1	Lincoln, NE 68502	438-2434
Secretary:	Vera Lyman, 420 N. 56th St.	Lincoln, NE 68504	464-6089
Treasurer:	Phyllis Parks, 2435 So. 19th St.	Lincoln, NE 68502	476-6798
Board Member	Marcia Eddy-Hamilton, 4903 Hillside St.	Lincoln, NE 68506	489-0716
Board Member	Kay Jurgens, 14421 Danvers St.	Waverly, NE 68462	786-2756
Board Member	Grant Bennett, 721 No. 58th St.	Lincoln, NE 68505	466-5377
Board Member	David Heffelbower, 1819 Washington St.	Lincoln, NE 68502	475-4713

Nominating Committee

3 years	Jerry Moore
	Kevin Schwartzman
2 year:	Roger Pabian
	Bill Rockel
1 year:	Shirley Roockel
	Kenneth Doe
Chairman:	Immediate Past President

Long Range Planning & By-Laws Committee

3 years	Charles Wooldridge, Chair
	Kevin Schwartzman
2 Year:	David Heffelbower
	Jim Parks
1 Year:	Vera Lyman
	Roger Pabian

Standing Committees

Membership:	Shirley Rockel	Programs:	David Heffelbower
Education:	Roger Pabian	MWF Liaison:	Vera Lyman
Field Trips:	Jerry Moore, Coordinator	Scholarship:	Susan Taylor
Historian:		Christmas Party	
Hospitality:	Eddie "Lightning" Ridge	1999 Show:	Jim Marburger
Study Coordinator:?		2000 Show:	John Harrison
Housing/Property:	Jim Parks	2001 Show:	
Youth Activities:	Kay Jurgens	1999 Swap:	David Heffelbower
Librarian:	Roger Pabian	2000 Swap:	
Auditing Committee:?			

Gem Palette Correspondent:

Geology Day Coordinator: 2nd Vice President

L. G. M. C. Web Page Address :

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Your PICK & SHOVEL Staff

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The purpose of this corporation shall be to study, promote an interest in, and disseminate knowledge of lapidary and various Earth sciences including but not necessarily limited to geology, paleontology and mineralogy. It shall be a particular purpose of the corporation to provide education in these fields to its members and the general public, particularly youth and student groups.

J. J. & L. ROCKS and MINERALS

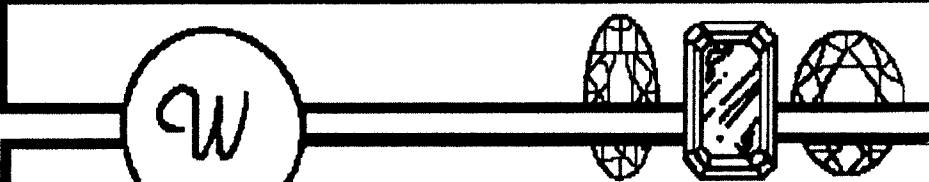
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Subscription to the PICK & SHOVEL are \$10.00 per year mailed.

Dues to Lincoln Gem & Mineral Club are as follows:

Adult	(ages 16 and over)	\$10.00/year
Junior	(ages 12 to 16)	\$2.00/year
Family Membership	(Husband, wife, resident children under age 16)	\$22.00/year

New memberships must be approved by the Board, after the applicant attends at least one meeting of the club and pays the above dues plus a \$5.00 registration fee.

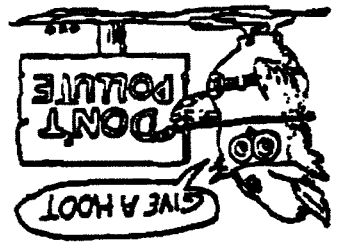


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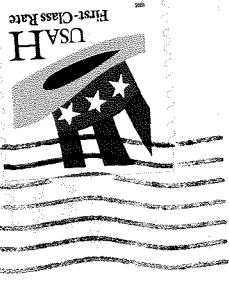


Susy McMahan
5636 Greenwood St.
Lincoln, NE 68507

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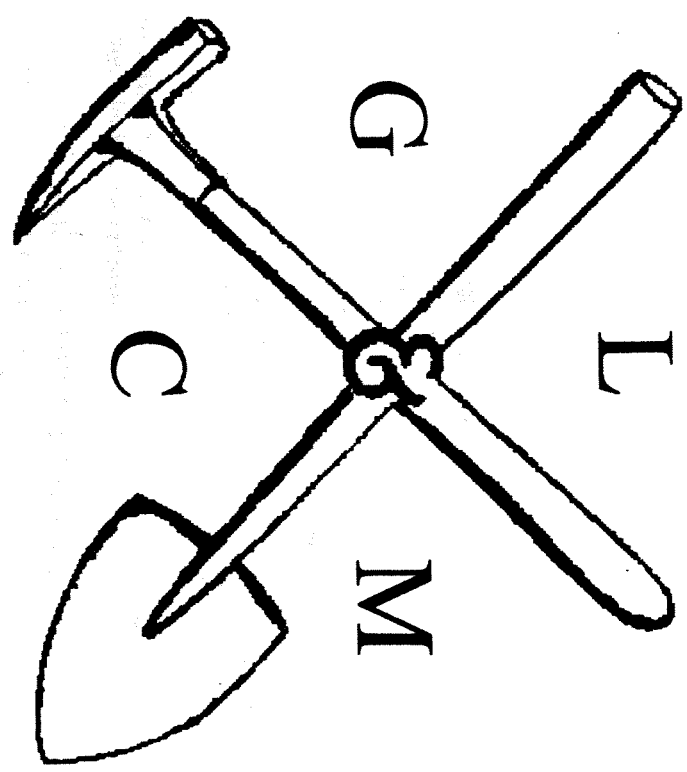


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APRIL 1999



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