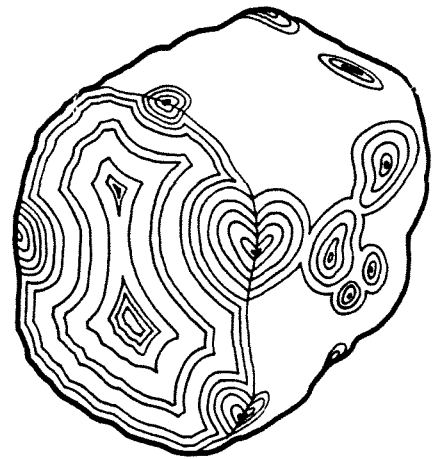




PICK & SHOVEL

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Iris Agate
Dues Increase
Study Group



Volume 30
Nov, Dec.,

Nos. 3, 4
1989

Lincoln Gem and Mineral Club, Inc.

P. O. Box 5342

Lincoln, Nebraska 68505

1989 ELECTED OFFICERS

President: Fred B. Holbert , 2822 S. 13th St., Lincoln, NE 68502	423-5639
1st Vice President: Gerald Moore , 2305 S. 35th St., Lincoln, NE 68506	489-4184
2nd Vice President: C. David Heffelbower , 1819 Washington St., Lincoln, NE 68502	475-4713
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: Francis Belohlavy , 1919 "K" St., No. 4, Lincoln, NE 68510	477-4337
Board Member: Roger Pabian , 315 "D" St., Lincoln, NE 68502	474-2034
Board Member: Donald Phillips , 5901 Spruce St., Lincoln, NE 68516	489-7637
Board Member: Shirley Rockel , 1134 West Avon Lane, Lincoln, NE 68505	464-3059

NOMINATIONS COMMITTEE

3 Years: Kevin Schwartman, Chair.
Roger Pabian
Eddie Ridge,
2 Years: Phyllis Parks, Janet Wright
1 Year: C. David Heffelbower,
Bill Rockel

LONG RANGE PLANNING AND BY-LAWS COMMITTEE

3 Years: Kevin Schwartman,
Jim Marburger
2 Years: Bob Wright, Linda Parks
1 Year: Charles Woolridge
Phyllis Parks

STANDING COMMITTEES

Calling: Shirley Rockel
Education: Roger Pabian
Field Trips:
Historian: John & Lillie Lewis
Hospitality: Wilma (Billie) Heffelbower
Membership: Gerald Moore
Housing/Property: Jim Parks
Junior Activities: Janet Wright
Librarian: Jim Parks
Membership: Gerald Moore

MWF Liaison: Vera Lyman
Programs: Francis Belohlavy
Scholarship: Marie Taylor
Christmas Party: Billie
Heffelbower
1989 Rockhound/Year:
Roger Pabian
1989 Show: John Harrison
1990 Show: Roger Pabian

AUDITING COMMITTEE, 1987-1988

Shirley Rockel
Don Phillips
Francis Belohlavy

YOUR PICK & SHOVEL STAFF

Publisher: Lincoln Gem & Mineral Club, Inc., P. O. Box 5342, Lincoln, Nebraska 68505
Editor: Roger Pabian
Business Reporter: Vera Lyman
Financial Reporter: Phyllis Parks
Circulation : C. David and Wilma Heffelbower

The Pick & Shovel is the official publication of the Lincoln Gem and Mineral Club, Lincoln, NE. Articles and items appearing within may be reproduced in other club bulletins provided that proper credit is given to the Pick and Shovel and the author, and that a reprint of the bulletin is sent to the editor of the Pick & Shovel.

CALENDAR OF EVENTS

- NOVEMBER MEETING:** Saturday, November 18, 7:30 PM
Nebraska Center for Continuing
Education, 33rd & Holdrege.
- BUSINESS:** Annual election of officers.
Come vote for your favorite candidate.

Important news about dues.
- PROGRAM:** Deposition and bioturbation
history in the lower Whitney Ash,
western Nebraska. By Kevin Schwartzman.
Highlights from Kevins MS and poster
session that Kevin, with Bob Goodwin
and Jim Swinehart, will be presenting
at the Geological Society of America
meeting, St. Louis, November 6-9.
- JUNIOR MEETING:** 7:00 PM. Program to be announced.
- COMING EVENTS:** December 2, CHRISTMAS PARTY, Nebraska Center.
33rd & Holdrege, 6:30 PM.
Menu: Waldorf Salad, Braised beef tips with
mushrooms, baked potatoe, green beans with bacon,
angel food cake with strawberries and whipped
cream, beverage, all for only \$8.50.

All of the above plus an interesting program on
silversmithing by Irma Pharaoh of Custom Gems,
Omaha.

Money must be received by Phyllis Parks, Treasurer,
by November 30, or you may get your tickets at the
at the November 18, general meeting.
- FUTURE MEETING DATES, PLACES:** ANNUAL SWAP, Saturday, January 27,
1990, Nebraska Center, 33rd & Holdrege, 1 - 7 PM,
to be followed by regular meeting at 7:30 PM.
David Heffelbower is Chairman of this event.
- DISPLAY MATERIALS** Bring items that relate to November (Topaz) or
December (turquoise). Agates in any shape, form, or
color are always welcome, as is any display item.
- ON THE COVER.**--Agate is the favorite gemstone of many hobbyists. It is
inexpensive, colorful, highly variable, and can still be easily
collected in many areas.

PRESIDENT'S MESSAGE

We thank our able group of delegates who attended the state meeting of NAOESCI while at the Grand Island show recently. Congratulations to our David Heffelbower who was elected to the board for a two year term.

We were personally dismayed to find that the food concession was no longer selling pie at the Grand Island show. We made the comment that now we would have to wait until the Hastings show in April to get our pie. Now our dismay has turned to sadness to find that next year there will be no Hastings show. This development coupled with the news of the cancellation of the North Platte show certainly does not bode well for the future of our special interest in the earth sciences throughout the state. It is not at all surprising however, as we note the increasing average age of many club's members and their corresponding decreasing numbers. This certainly points out the need for an aggressive junior program as well as overall recruitment.

Our daughter, Jill, called at 11:30 PM from her darkened home in Palo Alto, California, on the night of the recent earth quake to tell us that she and her two cats survived the great shake. She works in San Jose, just North of the quake's epicenter. Luckily, she got off work at 4:30 PM and was about one mile from home on highway #101 at 5:04 PM when the earth began to move. She reported that it was like driving on four flat tires and the highway in front of her started to heave and roll with great amplitude. She reports that because of the quake, Candlestick Park has been renamed "Wiggly Field".

Jill also reported that one of the tenants where she lives had a cat diagnosed with an incurable, fatal disease. The tenant could not bring herself to destroy the animal, so she has kept it inside the building where Jill lives. Jill's two cats are now undergoing a series of inoculations, but will not be fully protected until the third shot. Not wanting to further expose her cats to the sick cat living inside the abode, she put her two cats outside. Because her cats were not used to the out-of-doors and fearing further after shocks, she left her bedroom window open for the cats to seek shelter. That night she awoke hearing someone eating in her room. They were slurping and sloshing quite loudly. When she fearfully turned on the light, she found an opossum eating cat food on the foot of her bed. The resulting scream scared the both of them quite a bit.

We note with pleasure the success of our first study group meeting. Twelve participants attended and their attention was rapt at Roger Pabian's introduction to the quartz family. We will continue to meet at 7:30 PM on the second Tuesday of each month in room #115, Nebraska Hall at UNL.

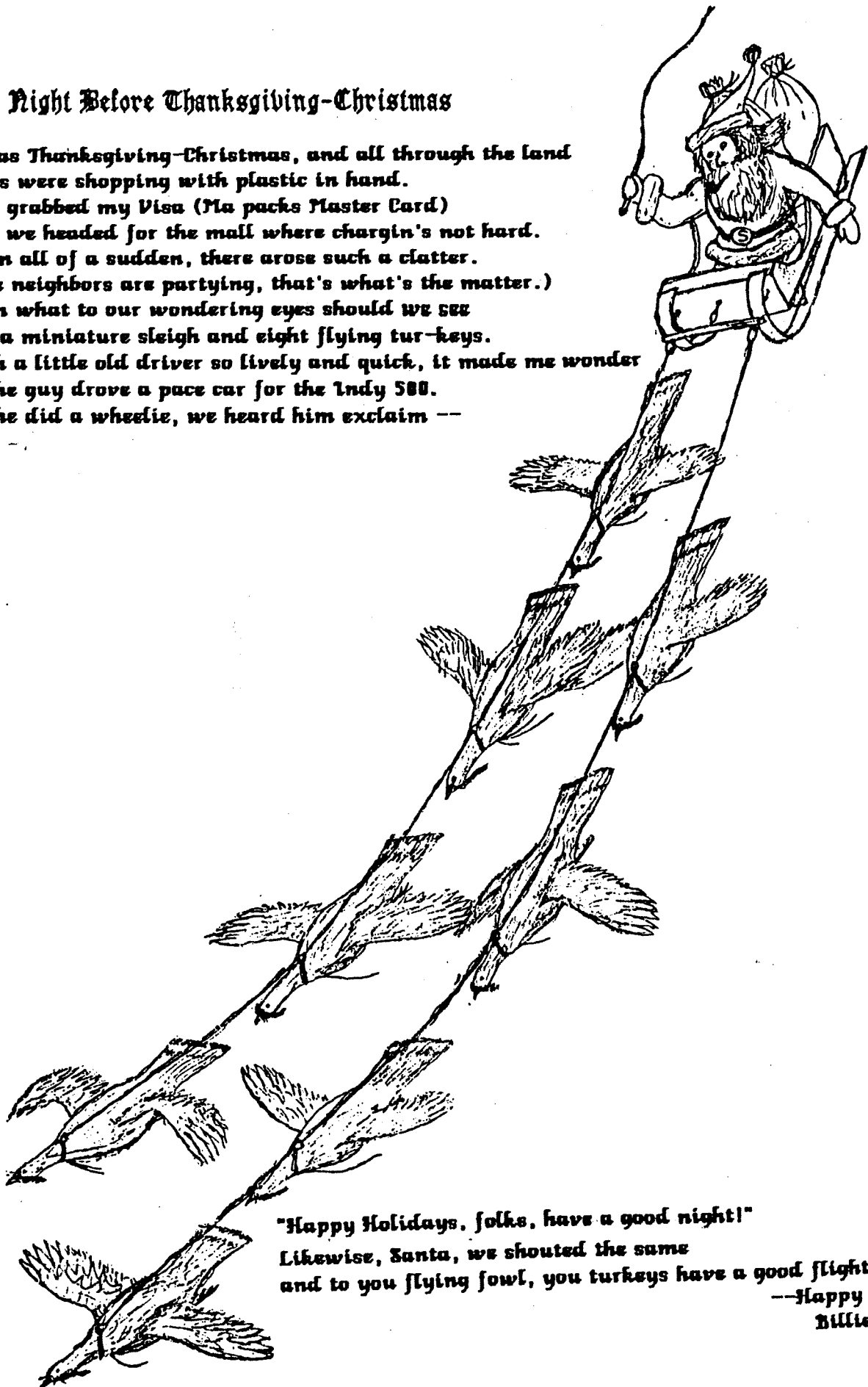
Also noted is the passing of longtime member, Edwin Johnson, from our group. We extend condolences to Mrs. Johnson. In addition, we call attention to the death of the son of Mr. & Mrs. Charles Smith of Teton Gems, Boise, Idaho.

The latest coup reported is that of the Khmer Rouge guerrillas who have over run the gem-rich Cambodian border town of Pailin. This area is rich in rubies and sapphires, having been mined since the late 19th century. If their stronghold is maintained over the region, we can well imagine that some gem stones will be sold under a private label name. No longer will the prime ruby color be known as pidgeon-blood red, but will be sold as Khmer Rouge.

FRED B. HOLBERT

The Night Before Thanksgiving-Christmas

'Twas Thanksgiving-Christmas, and all through the land
folks were shopping with plastic in hand.
So I grabbed my Visa (Ma packs Master Card)
and we headed for the mall where chargin's not hard.
When all of a sudden, there arose such a clatter.
(The neighbors are partying, that's what's the matter.)
Then what to our wondering eyes should we see
but a miniature sleigh and eight flying turkeys.
With a little old driver so lively and quick,
it made me wonder if the guy drove a pace car for the Indy 500.
As he did a wheelie, we heard him exclaim --



"Happy Holidays, folks, have a good night!"

Likewise, Santa, we shouted the same
and to you flying fowl, you turkeys have a good flight!

--Happy Holidays,
Billie Sunbeam

SEARCH FOR IRIS

By Bill White

A collector who searches for iris agate should cut a very thin slice from every agate he or she saws. STOP! Oops, I'm sorry, I guess there are people who do not saw agates and would like to know what I am writing about. The iris we are looking for are the spectral colors of white light (red, yellow, and blue) that is seen in thin slabs of agate held between your eyes and a clear, incandescent light bulb. It shows sometimes gorgeous splashes of the spectral colors. Iris agates are more common than most agate collectors might think. Although it is reputed to occur only in colorless agates, it has also been observed in highly colored agates. The colored agates will cause a masking of one or more of the spectral colors; for example, red will absorb the red, etc.

The crystal form and packing necessary for the iris effect is present in many agates. It is the practicing lapidary who is apt to find the most iris agates of the highest quality.

Concnetric banding is an integral part of most agates including iris agates. The number of bands per unit of measure is incidental to the show of color. In thin slices of agate cut across the bands, you may observe a screen or checker board effect. As white light passes through this diffraction grating, great interference of the light being transmitted from the light source to the eye is taking place and you see this manifested as spectral colors. The light from the source is refracted (bent), cancelled, intensified, absorbed, and maybe, polarized from the time it enters the agate until the time it leaves it. All of those things above that happen to the light are most likely caused by the crystal form and the crystal packing in the agate.

It is often stated that iris is seen in only extremely thin slabs of agate although I have seen iris in slabs over 1/2 inch thick. To get the best display of iris, the agate must be cut perpendiuclar to the bands of the stone, or parallel to the c axes of the microcrystals.

An easy way to test for iris is to saw a thin slice of agate from the nodule, clean it thoroughly, dry it completely, and apply a coat of clean oil to each side of the slab. Baby oil, olive oil, or mineral oil do very well. Observe the slab at arms length while standing in a darkened area facing a bright, clear incandescent bulb. Rock the slab back and forth and move it up and down. If iris is present, the stone will show spectral colors that change from red to blue to yellow as the stone is moved. Sunlight is too bright to use as a check for iris, although some polished iris agates may show their colors from reflected sunlight.

It is fun to play with slabs of iris agate. We all perceive colors differently. Our color receptors see colors that correspond to the light waves being transmitted. The angle of observation controls which light waves reach your eyes. An ever so slight change in yourline of sight will show other colors. The red, yellow, and blue of the spectrum will often become mixed and and green or violet may then be seen. Pure yellow is rare to observe as it often mixes with red to produce orange or blue to produce green. Good luck on your iris quest. +++

LINCOLN GEM & MINERAL CLUB, INC. - BOARD OF DIRECTORS - Oct. 2, 1989

Nebraska Hall - Rm 115 7:30 P.M.

President Holbert called the meeting to order. Minutes of the Sept. Meeting were read with a motion for approval by Francis Belohlavy, 2nd by Roger Pabian. Carried.

Treasurer's report was read with motion for approval by Dave Heffelbower, 2nd by Don Phillips. Carried.

BILLS:

Those presented for payment & approval and also those already paid - with motion for approval by Francis Belohlavy, 2nd by Don Phillips. Motion carried.

OLD BUSINESS:

New electric stapler purchased for \$ 104.97.

A reporter is needed for the Gem Palette, as the secretary would like to resign from that duty. Roger is going to check with Sandy McNiff.

SHOW BUDGET:

Roger will have it prepared for Nov. Board Meeting.

CHRISTMAS PARTY:

Budget was set at \$ 75.00 with motion by Vera L. and 2nd by Phyllis P. Carried.

DUES:

Discussion of dues increase: Recommendations as follows:

A motion was made by Vera Lyman that dues be increased to \$ 7.50 per adult plus \$ 2.00 for children on family membership; \$ 2.00 for Junior who wishes to join alone via an adult Club-member sponsor. Registration and re-instatement fee to \$ 5.00. Second to motion by Roger Pabian. Motion carried.

This motion is to be presented to Long Range Planning for acceptance/and-or changes prior to October General Meeting, when it shall be presented to rank & file.

ANNUAL MID-WINTER SWAP:

Dave Heffelbower volunteered as chairman. It will be held at the NE Center on the 4th Saturday from Noon thru evening meeting (if no conflicts).

MISC:

Program for October meeting possibly presented by "Wooly".

October 30, 7:30 P.M. November Board Meeting - Nebraska Hall, Rm 115.

Respectfully submitted,

Vera Lyman

Vera Lyman, Secretary

Treasurer's Report for October 1989

Balance NBC Checking 9/30/89 \$ 134,34

Cash Receipts:

1990 Show Dealer Deposits & Payments	\$ 1250.00
Transferred from NBC Money Mkt.	300.00

Disbursements:

Sept. Pick & Shovel Printing	111.83
Sept. Program Expense	20.30
Sept. Meeting Nebr. Center	53.00
Memorial for Ed Johnson	15.00
Mailing re: Study Group Meetings	11.72
'90 Show Dealer Expenses	25.83
Misc. treasurer's expense	8.14
Oct. refresh, mailing, LRP/By-Law Rpt.	15.05
Advance Christmas Dinner Exp.	25.00
Transfer funds to Interest bearing acct.	250.00

Balance NBC Checking 10/31/89 \$ 1148.47

LINCOLN GEM & MINERAL CLUB, INC. - GENERAL MEETING - Oct, 28, 1989
Bethany Park Shelter House, 7:30 P.M.

Meeting called to order by President. Minutes were approved with motion by Dave H., 2nd by Paul Brauch. Carried. Treasurer's report was approved as printed with motion by Roger Pabian, 2nd by Shirley R. Carried.
Attendance: 24 Adults 6 Juniors 3 Guests.

OLD BUSINESS:

First Study Group meeting had 12 in attendance. Roger P. was facilitator. Charles W. will have report in P&S. Next Meeting will be Nov. 14.

NEW BUSINESS:

Written report handed out to all present regarding motion by Board to increase dues. Numerous questions from members and discussion followed. Motion by Irl Everett to increase dues to \$ 10.00 for adult (instead of 7.50, as in original motion) effective in 1990. Second by Jim Taylor. Rest of original motion remain same.
Voted to table amendment to next meeting with motion by Roger Pabian.

COMMITTEE REPORTS:

Christmas: Billie H. reported it will be "An Old-fashioned Christmas", at the NE Center. Dec. 2.

Show: Have 8 contracts. 6 not returned. A new dealer - bead worker from Topeka.

State Show Meeting: Dave H. reported 10 of 19 State Clubs represented. Barry Rose elected as new President. Looking for place to host 1990 State Show and State Swap. Roger P. stated Sandra McNiff has sent written report - will be in P&S.

Marie Taylor also reported that we have a new State Director for MWF. Don Gless has accepted that position.

Library: Roger Pabian presented new book to Club Library:

"Late Pennsylvanian & Early Permian Cyclic Sedimentation, Paleogeography, Paleocology, & Biostratigraphy In Kansas & Nebraska"

Compiled by: Roger K. Pabian and R. F. Diffendal, Jr.

Juniors: Janet W. reported that Roger had donated a lot of material to Junior group. After Juniors selected what they wanted, a lot was left. Contacted Earth Science Teachers in elementary and Jr. Highs; they came out to pick up collections. Grad students helped with identification; Mike McNiff helped with transportation. Thanks to everyone!

Juniors and some adults appeared in "costume"! As follows:

Jrs: Joe - Talc - Best costume John - Chalk - Most misterious costume

Adults: John Lewis - "the hairiest" Lillie Lewis - "the lovliest"

Billie H. - "the purriest" Dave H. - "most 'puning' "

Bob W. - "most 'stately' "

Program: Roger P. and Charles W. shared the spotlight. Charles narrated his findings, purchases, etc. on Star Garnets.

Roger showed slides of experiences collecting Sapphires after Nat'l Show in June with Bill & Betty White. (I think it would be easier to purchase them) I think Roger agrees!

Evening closed with "sweet refreshments", hot cider and coffee.

Respectfully submitted,

Vera Lyman
Vera Lyman, Secretary

LORENZO DEI MEDICI COLLECTION

By Roger K. Pabian

Thrift stores, garage sales, and used book sales often provide the history-oriented collector with some very unique items, many of which are not gems or minerals in themselves. At a recent retired teachers book sale that was held at Gateway Mall, I ran across the usual bevy of typical rock, mineral, and fossil guides. Then a beaten paperback caught my attention, or, really, the word Naples, caught my eye. The full title of the publication was "A Complete Handbook to the National Museum in Naples, According to the New Arrangement." This catalogue was compiled by Domenico Monaco, and was dated 1910. Since I had spent much time in the National Museum in Naples while in the U. S. Army, I was more than interested in this little tome and quickly shelled out the sum of 25 cents to add it to my library.

While perusing through the pages, I found that the book contains the catalogue of the cameo and intaglio collection of Lorenzo dei Medici. Those who are familiar with European History will recognize the name of one of Italy's more notorious figures. Lorenzo has been the bad guy in numerous grade-B, swashbuckling adventure films of the era ending with middle ages and approaching the renaissance.

Monaco (p. 112) reported that the collection contained about a thousand cameos and about 500 intaglios. Many actually bear the name Lorenzo dei Medici as his seal of ownership. The collection came to the National Museum in Naples from the Farnese collection and were secured through donation.

Many of the cameos and intaglios were found at Pompeii and Herculaneum, two cities that were decimated by the catastrophic eruption of Vesuvius in 79 AD. Other cameos were probably commissioned by the Medici family.

The cameos delve heavily into mythological figures and the list is quite impressive. Subjects include the following: the education of Bacchus (onyx); Venus surprised at her bath (sardonyx); Jupiter overwhelming the Titans (onyx); Ulysses at rest (agate); head of Medusa (agate); the Roman Emperor, Domitian (sardonyx); and Ajax dragging Cassandra from the Palladium (agate).

Monaco (p. 115) described one cameo eloquently. +188. Sardonyx. Aurora on a quadriga. The artist knew how to make the most of the different strata of the stone to give each horse a distinct colour. According to Winckelmann, their colours indicate dawn, day, twilight, and night.

Intaglios include the following: Orpheus playing the lyre (emerald); head of the infant, Hercules (chalcedony); Perseus with the head of Medusa (cornelian); Diana with Apollonius inscribed in Greek, a gem of great celebrity (amethyst); and strength conquered by beauty, a woman seated on a lion with two cupids (cornelian).

It is interesting to note that almost all of the 1,500 or more stones are made up of some quartz family gem. To the ancients, onyx was parallel banded agate, unlike the inexpensive Mexican Onyx we see today. Sardonyx meant alternating colored and white bands, although the modern meaning suggests orange-red and white. +++

MONTHLY STUDY GROUP

By C. A. "Woolly" Wooldridge

The Lincoln Gem and Mineral Club held its first monthly study group on Tuesday, October 10, at 7:00 PM in the Geological Survey conference room, 115 Nebraska Hall on the University of Nebraska main campus. Subsequent meetings will occur there on the second Tuesday of each month. Quartz has been selected to the subject for the group to study. Quartz is a common mineral that will provide study material for months to come. Professor Roger Pabian is providing educational material to the group with lectures, slides, and examples of the subject minerals. Much is conducted on a show and tell basis.

We began our adventure into quartz (silicon dioxide) with a discussion about what a mineral is and quickly explored the six basic crystal systems: isometric, tetragonal, hexagonal, orthorhombic, monoclinic, and triclinic.

The refractive index, how it is determined, and its importance to mineral identification as well as lapidary treatment was covered in depth. Quartz has two refractive indexes ranging from 1.544 to 1.553. All quartz, regardless of color, has a similar refractive index. Roger shared a tip with the group. Since baby oil or olive oil have refractive indexes in the 1.54 range, they can serve as an inexpensive and non-toxic alternate immersion fluid. When quartz is placed in the fluid, the light rays striking the crystal are not bent and it is possible to detect internal flaws within the crystal under room conditions.

The polariscope and dichroscope were each discussed as to how they function and how they are operated, and what information they can reveal to the mineralogist or gem cutter.

This study group is definitely not a get together and shoot the breeze session. It is a serious presentation and discussion about the science of mineralogy and its application to the lapidary arts. I would encourage those who want to understand the scientific principles and research that provide the foundations of gemology to come join with us Tuesday, November 14, room 115 Nebraska Hall.

In learning the concept of the refractive index, we learned that 186,000 miles per second is not just another good idea---it's the law.

ABOUT THIS ISSUE

Since the December meeting will be held long before the December issue of the Pick & Shovel reaches you, the Board of Directors has decided to combine the two issues into one larger issue. In addition to a larger November-December issue, we will have a very special January issue to go along with the big annual swap on January 27, 1990. +++

OTHERS WRITE**PRIZED AGATE ALONG
CENTRAL OREGON COAST**

The area around Newport is one of the finest agate hunting areas in the world because the supply of stone is never exhausted.

The Pacific Ocean, relentlessly renews the agate supply every year during the winter when the storms are harshest and the tides uncover great beds of gravel at that time of year. This brings the lighter weight stones, characteristic of (quartz) gem material, to the top. The "off season" from October through April is the very best time to hunt for the fine agates one can find in the area. The mild winters of the coast allow one to hunt at all times of the year in comfort.

The agate hunter should look for loose gravel on top of the sand. The stones are washed out of the banks and maybe concentrated in the gravel. Most agates are translucent and when held to the sun or other strong light, the formations can be seen. The opaque agates such as jaspers must be judged by colors. It is best to hunt on an outgoing tide for it is then the gravel has been freshly agitated and the stones are most plentiful. Walk into the sun so that you can better see the agates sparkle. It is always easier to see agate or jasper when it is wet, so start hunting down where the water has recently receded. They will be much shinier than other wet rocks. Also keep in mind that because it is very hard, agate will remain wet longer than porous rock, therefore the agate will be shining long after the basalt or sandstone is dry. Always be mindful of "sneaker waves" and never turn your back on the ocean.

Types of agate to be found in this area include: jaspers (the common), agatized wood, coral, sea fossils, regular clear agate, ribbon agate, and bloodstones.

Much of the agate and jasper found on Oregon beaches will have been worn down from traveling long distances for many years in ocean currents until it is rounded. If you look closely at a dry piece of this rock, you will see that it is covered with little, crescent-shaped indentations as though someone had pressed their fingernail into it.

A specific list of all of the agate beaches would be too lengthy to include here. Come see us for further information of agate collecting localities on the Central Oregon Coast.

Originally published in **FACETS**, Gem & Mineral Gallery, 1125 S. W. Coast Hwy., Newport, Oregon 97365. Author not known. +++

NEW PUBLICATION

"Late Pennsylvanian and Early Permian Cyclic Sedimentation, Paleogeography, Paleocology, and Biostratigraphy in Kansas and Nebraska. Compiled by Roger K. Pabian and R. F. Diffendal, Jr. Conservation and Survey Division, IANR, University of Nebraska-Lincoln. \$4.00 + appropriate sales tax + \$1.00 (fourth class) or \$2.00 (first class).

A somewhat technical publication that shows relationships of the kinds of rocks to ancient sea-level curves. Numerous outcrops in both Kansas and Nebraska are described. +++

PROPOSED BY-LAW CHANGES - to be presented to the membership at the November 1989 Annual Meeting for their consideration and vote.

The 1989 Board of Directors of the Lincoln Gem & Mineral Club requested that several changes be proposed in the membership dues structure commencing with 1990. These proposed changes, as approved by the Board of Directors on October 30, 1989 are as follows:

ARTICLE I Section 2 (b) and (c) (e) (Change \$5.00 to \$10.00, \$1.00 to \$5.00 and \$2.50 to \$5.00)

To read - (b) Membership dues shall be \$10.00 per year, payable January 1. A fee of \$5.00 plus \$10.00 annual dues will be paid by each adult applying for membership. A fee of \$5.00 plus membership dues of \$5.00 will be charged adults applying for membership after July 1.

(c) Those persons who become new adult members after November 1, will pay the \$5.00 fee and the \$10.00 per year membership dues. These members will have their dues paid until December 31 of the following year.

(e) A member may be reinstated upon request, by a majority vote of the Board of Directors, provided that dues, plus a reinstatement fee of \$5.00 shall have been paid.

ARTICLE I Section 3 (a) (b) (c) (Change \$1.00 to \$2.00 and 50¢ to 1.00)

To read - (a) Member's children under 16 shall be welcome at club meetings and field trips if their behavior is not distracting to the club meeting. Member's children under 16 desiring to join as junior members may do so by payment of \$2.00 per annum or \$1.00 after July 1; however, this membership shall be non-voting.

(b) Children between the ages of 12 and 16 whose parents are not adult members, may join as junior members by payment of \$2.00 per annum or \$1.00 after July 1, providing that each junior member must have an adult club member as his sponsor; however, this membership shall be non-voting.

(c) Those persons who become new junior members after November 1, will pay the \$2.00 membership dues. These members will be paid until December 31 of the following year.

ARTICLE I Section 4 (b Para.2) (c)(d) (f) (Change \$11.00 to \$22.00, \$1.00 to \$5.00, and \$5.50 to \$11.00)

To read - (b) 2nd paragraph - Dues for the entire family shall be \$22.00 plus a fee of \$5.00, provided, however, that this fee is waived if one or more members of the family have paid the initial fee as part of an individual adult membership. These fees are payable January 1.

(c) A fee of \$5.00 plus membership dues of \$11.00 will be charged for family membership after July 1.

(d) Those families becoming members after November 1, will pay the \$5.00 fee and the \$22.00 per year membership dues. These family members will have their dues paid until December 31 of the following year.

(f) A family membership may be reinstated upon request by a majority vote of the Board of Directors, provided that dues, plus a reinstatement fee of \$5.00 shall have been paid.

Lincoln Gem and Mineral Club, Inc.

P. O. Box 5342

Lincoln, Nebraska 68505



REPORT FROM LGMC LONG RANGE PLANNING & BY-LAWS COMMITTEE

prepared and presented for Kevin Schwartman, Committee Chairman.

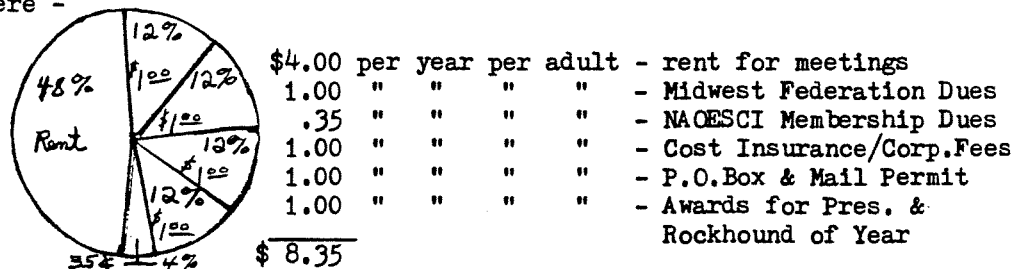
As a result of motion from the Board of Directors this committee was asked to research and develop plans to increase our present membership dues. This is needed to more closely cover the yearly expenses necessary to carry on the current schedule of meetings, special events and publication costs. Our report is to be ready for presentation at the October Club Meeting for discussion and preliminary action.

* The Board motion, made by Secretary Vera Lyman, seconded by Roger Pabian and approved by all board members present, asked that dues be increased to \$7.50 per adult per year, increase junior dues for a family to \$2.00, or for a junior admitted with an adult club member as sponsor to \$2.00 each, registration and/or reinstatement fee to be increased to \$5.00 each.

The Long Range Planning & By-Laws Committee, after going thru many facts and figures, wish to recommend this as a By-Laws change effective with the 1990 dues but we respectfully suggest that a further increase to \$10.00 per adult be commenced within two years at the latest.

Our research facts are presented here for the membership prior to your questions and before we act on this motion:

1. The dues have been at \$5.00 per adult since 1978. Expenses have gradually increased during this period so that many years have shown a substantial loss for activities and fixed expenses thus eroding away at our investments and causing the earned interest to lessen each year.
2. Fixed expenses at this time cost us approximately \$8.35 per adult member as shown here -



As you can see this does not allow for any scholarships, gifts or Earth Science related works or for any expenses to publish our Lifeline - The Pick & Shovel.

3. Our major scholarship for geology students through the UNL Scholarship Foundation is funded by the interest from one of our longstanding Certificates of Deposit.
4. Interest on our other certificates of deposit and savings do not at present cover the cost of printing and mailing the required number of bulletins to insure our bulk mailing rate.

If this membership approves such an increase in dues, the committee will prepare the proposed by-laws changes and be certain that they are mailed to every club member by November 8th, 10 days prior to the November meeting and election of officers. You will be asked to cast a vote for the changes.

* October 30, 1989 - After presentation of the above report and a question and answer period, Motion was made by Irl Everett to go directly to \$10.00 per adult, seconded by Jim Taylor, amended to cover complete dues structure, at which time motion was tabled until proper notification has been given each member and will be voted upon at the November 1989 Annual Meeting.

1989 Grand Island State Show
Delegates Report

MEETING CALLED to ORDER by President Roy Bower at 4:47 PM on Oct. 22, 1989. Lincoln was represented by four voting delegates--Billy Heffelbower, Kevin Schwartman, Charles Woolridge, and Sandi McNiff. Also present from Lincoln were three nonvoting members.

MINUTES AND FINANCIAL REPORT

Motions were made to waive the reading of reports. Both were approved.

EDITOR'S REPORT

Henry Hohnholt reported 325 current subscriptions to the Gem Palette. He had the following requests.

1. Please send 325-plus copies of flyers to be put in the bulletin.
2. Please submit submit subscriptions all at once as a club.
3. Send in two subscribers' lists--one for the Gem Palette and on for the directory.
4. Please double-check addresses as there is no "Return to Sender" on bulk rate mailings.
5. The subscription deadline will be changed to February 1 to accomodate clubs who renew late in the year.

BOARD OF DIRECTORS REPORT

All directors were present but one. Items discussed were:

1. Compiling a list of equipment owned by the club.
2. Ideas to increase show attendance.
3. The fact that there have been no bids for the next State Show or Swap.

OLD BUSINESS No old business.

NEW BUSINESS

It was determined that the president is responsible for owned equipment. Therefore, the in-coming president will chair a committee to list said equipment and find the misplaced portable PA system.

The most effective and least costly means of advertising (especially local media) were discussed in relation to increasing show attendance. It was also proposed that a state officer visit one meeting of each club in his or her area to discuss upcoming events.

Lack of bids for State Show and State Swap were discussed. A motion was made and approved to let the Board of Directors accept bids at their disgression. A plea was made for each local club to consider a bid at their next meeting. Submit any bids in writing to Vice-President Barry Rose.

NOMINATING COMMITTEE REPORT

Nominations made and accepted.

President-Barry Rose of Grand Island
Vice-President--Herb Quigley of Omaha
Secretary-Treasurer--Margaret Hohnholt of Kearney
Board of Directors--Walt John of Norfolk
Dave Heffelbower of Lincoln
Niminating Committee--Myron Fougeron of Kearney
Connie McCartney of Grand Island

A motion to donate \$50.00 to Morrill Hall was made and approved.

MEETING ADJOURNED

Submitted by Sandra McNiff

MIDWEST FEDERATION OF MINERALOGICAL AND GEOLOGICAL SOCIETIES

Member of The American Federation of Mineralogical Societies

NEWSLETTER



Published monthly
Except
June, July, August

OCTOBER 1989 - Issue 290

Judith Washburn, Ed.
107 Deer Creek Road
Rochester, IL 62563

The Tully Monster

Illinois' official state fossil

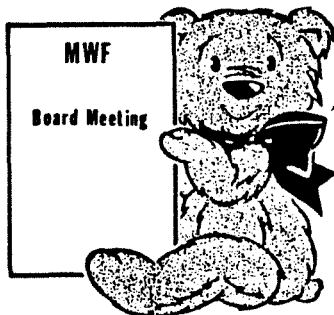
Governor James R. Thompson of Illinois has recently signed legislation designating *tullimonstrum gregarium*, the Tully Monster, as Illinois' official state fossil.

An imprint of this Pennsylvanian invertebrate marine animal was first discovered in 1955 by an amateur fossil enthusiast, Francis Tully of Joliet, Illinois. He found the specimen in a concretion in the Mazon Creek strip mine area of northeastern Illinois about 50 miles south of Chicago.

Little is known about this creature that roamed the warm seas and equatorial swamps of the state some 280 million to 340 million years ago. It apparently had a dirigible-like body. On one end was a spade-shaped tail and at the opposite end a long trunk tipped by a toothy claw. Protruding from the torso were stalks that scientists suspect were its eyes.

The Tully Monster has not yet been found outside the state of Illinois and has only been found in one area other than the Mazon Creek region. Comparatively few specimens have been discovered and positively identified. The Illinois State Museum currently has one on loan from a private collector, but does not have its own specimen.

The Tully Monster was the only fossil considered for elevation to the status of official representative of Illinois.



MWF FALL MEETING

The Executive Committee will be holding their Fall Meeting in conjunction with the Ozark Mountain Gem and Mineral Society Show at the University Plaza Trade Center in Springfield, Missouri, on October 14. The State Directors and their assistants are scheduled to meet at 8:30 AM and the Executive Committee is slated for 9:00 AM.

COPY DEADLINES

Nov.	10/23/89	Mar.	2/19/90
Dec.	11/20/89	Apr.	3/19/90
Jan.	12/18/89	May	4/16/90
Feb.	1/22/90		

October	1989					
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

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Clarendon Hills, IL 60514
312-323-1682

Treasurer
Mrs. Kitty Starbuck
7636 V Avenue East
Vicksburg, MI 49097
616-649-1991

HOW GLACIERS MOVE by Chris Peychal

There are two kinds of processes involved in glacial movement - basal sliding and internal deformation. Basal sliding is the movement of the glacier over its bed under the pull of gravity. It requires a thin film of water under the glacier. The water, provided by heat from the friction of the sliding ice or even from the earth, serves as a lubricant and reduces the friction of the ice against the bedrock.

Another ingredient of basal sliding is regelation. This process enables the ice to bypass small obstructions. For example, when the ice encounters a pebble in its bed, the increased pressure between the ice and the pebble lowers the melting temperature of the ice. The ice melts, and the water flows around the pebble where the pressure is removed. The water freezes again and continues to slide along as ice.

Internal deformation is the second principle movement of glaciers. It is far more complex than basal sliding. Until the 1940's, researchers thought that glacial ice moved like an extremely stiff liquid. During the next few years, laboratory tests were performed that confirmed that this process of deformation did occur in glacial ice. This process is often called creep.

The atoms of ice, under the extreme pressure of the ice above it, rearrange themselves into layers of atoms parallel to the surface of the glacier. These layers begin to glide over one another. This movement of the layers of atoms within each ice crystal is called internal deformation.

ARCH FACTS....

BONES AND STONES
The Wisconsin Connection

First, some information on stones from "a friend of the Archaeology Committee." As reported in the *Milwaukee Journal*, an amateur archaeologist, Herman Bender, from Fond du Lac, Wisconsin, literally stumbled over a pile of stones that proved to be part of a stone circle 30 feet in diameter. He was surveying a group of mounds on a friend's farm in southern Fond du Lac County when he and Jeffrey Behm, an archaeologist with the University of Wisconsin at Oshkosh, uncovered the rock configuration. The circle, they believe, was used to mark the summer and winter solstices and the spring and fall equinoxes. Behm estimated that the stone circle was constructed 800 to 1,000 years B.P. Besides the stone circle, they also discovered two petroforms, or geometric rock configurations, which apparently were also used for some astronomical purposes.

Assistant Charles Pluth of Wisconsin provided an article from the *Wisconsin State Journal* that also reported an archaeological site discovered by an amateur. In this case the site is in Iowa County west of Mineral Point, Wisconsin along a small branch of the Pecatonica River. Although first discovered by amateur Bob Canardo of Mineral Point in 1984 when the floodplain was first plowed, it was not professionally investigated until this summer. University of Wisconsin archaeologist James Stoltman excavated the site as a part of a student field camp. Stoltman chose the site because it did not have extensive disturbance and surface collections (stones and bones) suggested that there were deep undisturbed pits on the site. He also was hopeful that the alluvial deposits would provide stratified middens.

The excavations have turned up evidence of occupation by Paleo-Indian people 12,000 to 10,000 B.P., Archaic cultures 10,000 to 2,500 B.P., and several stages of Woodland culture 2,500 B.P. until 17th century contact with Europeans. Artifacts included Netter stamped and Weaver cordmarked sherds, Naubesa, Madison, Durst stemmed, and Malanzas points.

-John Washburn, Chairperson
Archaeology Committee

Wisconsin Geological Society
Milwaukee, WI
Junior Article (11-17)
First Place - MWF 1989
Seventh Place - WMS 1989

1989
MWF
NEWS

Safety

SAFETY AND FIELD TRIP Lloyd Brown

Only two clubs received the MWF Safety Certificate Award over the past year. I would like to see many more clubs apply for this award. Providing a first aid station at your annual show or swap should qualify your club. Write to the MWF Safety Committee chairman for an application blank.

Thank you, bulletin editors for your continued concern for safety as shown by the many articles and paragraphs on safety appearing in club bulletins.

If it were not for AIDS, the number one U.S. health topic would be Lyme Disease. The disease has spread throughout Eastern and Midwest U.S., into the South, the West, and Canada. The Wisconsin Geological Society has had its first victim, now cured, and *Borrelia burgdorferi* has claimed a victim in a forest preserve in suburban Chicago. The victim, now cured, and *Ixodes dammini*, carries the bacteria. A "bull's eye" rash is diagnostic in most cases. pin head sized deer tick, immediate treatment with antibiotics is important because the longer the treatment and possible permanent damage may have occurred. The use of tick repellents and a complete body check after a day in the woods, brush, or tall grass is an effective way to minimize the danger of bites and infection.

State Directors your help is needed so that I can compile a list of books which are devoted to information about and directions to collecting sites in your state and/or specific areas of your state. My only good sources of collecting information in some states are June Culp Zeiter's two Midwest guide books and these good books of necessity lack detailed information about the sites and specific directions to reach them. At present I can only provide general information when I receive inquiries about collecting in some of our Midwest states.

Excerpt from 1989 Summer Council Meeting Minutes

Vol. 30, Nos. 3, 4 PICK & SHOVEL NOV., DEC., 1989, Page 11

Editor's Note



Fall is a hectic time for all rockhounds. We're out there squeezing in every last collecting opportunity we can before the cold weather hits. Many clubs are hosting shows, and other activities outside the hobby vie for our time as well.

Club officers can especially feel the pressures. Sometimes, don't you wish you could just go to the meeting - maybe even a few minutes late, sit in the back row and just enjoy the program, and leave just a little bit after it's over - just like the "normal" club members? But then, you get a call, "Gee that was a great field trip you planned," or "I really enjoyed the bulletin this month," and it feels good. You perk up and find the energy to go on for another month!

If you didn't get that call yet, heave your arm over your shoulder and pat yourself on the back. You're doing a great job! Keep up the good work!

Tip for Editors

A little bit of pre-planning can make your newsletter/bulletin a more effective tool. Don't just grab a piece of paper and start typing and let the "print" fall where it may. Use a piece of graph paper or layout bristol board with dropout non-reproducing blue ink and draw up a grid - two - column is very effective - making decisions about column width, margins, spacing, etc. Design your page, don't just let it happen. Remember to leave some white space. You'll definitely come up with a more readable newsletter.



The Earth Science Club of Northern Illinois has published a second "KEYS" book. This one is for the fauna of the Mazon Creek area. It is highly recommended for use in identifying your faunal finds in the concretions. The credits are endless - many ESCONI members participated and contributed their specimens for study and illustration. Don Auler, a member of the MWF Paleontology Committee, was the illustrator. You will find them an excellent model for identification. This outstanding MWF club can boast to over 39 Mazon Creek fossils having been named for members. Every member of the MWF Paleontology Committee holds membership in ESCONI. For more details on this publication write:

Keys to Identify Pennsylvanian Fossil
Animals of the Mazon Creek Area
Earth Science Club of Northern Illinois
Paleontology Study Group
P.O. Box 371
Downers Grove, Illinois 60515

-Mary Roland, Chairperson
MWF Paleontology Committee

FROM YOUR BAC

The Bulletin Aids Committee and I have enjoyed receiving, reading, and sharing your bulletins that are sent to me on a regular basis, we ask that you continue to do so. There are many clubs that were unable to include the Bulletin Editor Aids Chairperson on their mailing list this past year, I would hope you will be able to do so in 1990.

During this next year with the aid of our MWF Newsletter Editor, Judith Washburn, we will publish some of the articles that placed in the 1989 Bulletin Editors Contest, we hope you will enjoy them as much as we have.

Next month (NOVEMBER) you will be receiving your rules, required bulletin, and deadline date through the MWF Newsletter. Also - a second mailing will be sent out at the same time (November) to all MWF editors/clubs consisting of the 5 score sheets to be used for 1990. Once again we are trying to get all MWF editors involved in a Midwest Federation function. If you have not received your 1990 score sheets by the first week of December, let me know immediately, I will see you get them.

We are anticipating a new and exciting year. Happy Editing!!



Kathy Miller, BAC
Bob Miller, Assistant
Catherine McHugh, Assistant
Ed Miller, Assistant

Lincoln Gem and Mineral Club, Inc.

P. O. Box 5342

Lincoln, Nebraska 68505



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Advertising by a rock-hobby business or interest is permitted with approval of the Board, at a rate now set at \$15.00 per full page per insertion, paid in advance.

1/2 page \$7.50, 1/3 page \$5.00 1/4 page \$3.75 (min). These ads will be placed throughout the bulletin as space permits.

Subscriptions to THE PICK & SHOVEL are \$5.00 per year mailed.

Dues to LINCOLN GEM & MINERAL CLUB are as follows:

Adult membership fee \$5.00 (age 16 and over)

Junior membership fee \$1.00 (age 12-16)

Family membership fee \$11.00 (husband, wife and all children under 16 - permanent residents of household)

New membership must be approved by the Board, after applicant attends at least one (1) regular meeting of the club, and pay the above dues plus \$1.00 registration fee.



H.E.L.P.

HELP ELIMINATE LITTER PLEASE!

MAIL ALL EXCHANGE BULLETINS TO:

**Lincoln Gem & Mineral Club
BOX 5342
Lincoln, Nebraska 68505-0342**



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