

CALENDAR

Regular Meeting Saturday, February 28, 1998, 7:30 PM, Nebraska Center, Beatrice Room.
Annual Scholarship Grants to be presented to UNL Geology Students
Short talks on their respective area of study.

Youth Meeting 7 PM-Planning for our **BIG SHOW** on **March 21-22**.

NEXT MONTH-- LGMC SHOW - MARCH 21-22, 1998, Pershing Auditorium
(Our 40th Annual Show)
Also Hosting the 1998 Nebraska State Show

NOTE!! In conjunction with the State Show a silent auction will be held to raise funds for The Gem Palette, our Association Newsletter. Please locate and bring some nice specimen to donate for that Auction.

March 28, 1998 We will have a general meeting on our regular 4th Saturday(one week after the SHOW) with coffee and **SHOW TALK** at Antelope Park Shelter. See your March Pick & Shovel!!

Please welcome **NEW MEMBER Susy McMahan**, 5636 Greenwood St, Lincoln, 68507
Phone 464-0065

Note: Our membership for 1998 consists of 55 paid adults, 2 Life Members and 11 youth.

Nearby Shows to Visit

March 13-15, 1998	SHOW	37th Annual Kansas City Gem & Mineral Show K.C. Market Center, 1775 Universal Avenue K.C. Mo. 64120 (Exit 57) I-35 & Front St.
March 21-22, 1998	SHOW	Cedar Valley, Iowa-Gem, Mineral & Fossil
March 27-29, 1998	SHOW	Machinist Auditorium, St. Louis, MO 12365 St. Charles Rock Road .
April 17-19, 1998	SHOW	Mid America Paleontology. Macomb, IL Western Illinois University

1998. REGIONAL SHOW SCHEDULE

EASTERN FEDERATION

SOUTH CENTRAL FEDERATION

February 28-March 1, 1998

Corpus Christi, Texas

ROCKY MOUNTAIN FEDERATION

CALIFORNIA FEDERATION
July 3-5, 1998

Monterey, California

NORTHWEST FEDERATION

June 12-14, 1998

Billings, Montana

SOUTHEAST FEDERATION

NOT POSTED YET

MIDWEST FEDERATION

/AFMS Combined
August 11-16, 1998

Houghton, Michigan

YOUTH NOTES

Match the word with the heart describing it.

by Kay Jurgens

These are Nebraska's state fossil, rock, and gem.

MAMMOTH

PRAIRIE AGATE

BLUE CHALCEDONY

Nebraska's state fossil is the _____.
It is an elephantlike mammal which crossed the Bering Strait land bridge. It was an elephant, but was much larger than the modern elephant. Early prehistoric man hunted it with primitive weapons. The tusks were used for tools and etchings.

Nebraska's state rock is the _____.
It is a semiprecious stone. Most if it is found north of Crawford, NE. It doesn't always have the bands associated with other agates, but is colorful. It was declared the Nebraska state rock during Nebraska's centennial celebration.

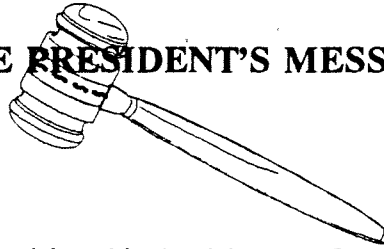
Nebraska's state gem is the _____.
It is commonly called the blue agate. It is used to make jewelry, and can be found in northwestern Nebraska. It sometimes has bands of blue and white, and often has a colorless streak.

20th ANNUAL INDOOR SWAP

Held from noon to 5 pm on the day of our regular January 1998 meeting, it proved to be a very good afternoon. We had only 9 swapper tables and much lower attendance than in prior years but the club member participation was really quite good. 24 of our club members including seven of our Past Presidents and our '98 President participated in one way or another. We even had all of the Presidents get together for a photo session. We also had active participation of 6 of our youth members.

Francis Belohlavy, chairman, kept the silent auction table full and with the evening auction generated \$61.55 for some as yet undecided purpose. Jim Parks dispensed Swapper Bucks in the amount of \$668.00 with returns of 666.50 that cleared \$66.50 surcharge to help pay for the coffee served. Member dues and advertising bills were collected and a lot of returning guests were greeted along with a few new faces. — EDITOR

THE PRESIDENT'S MESSAGE



I'd like to thank Francis and all who participated in the club swap. Everyone seemed to have a good time. This year's swap was unique in that we had a total of seven former club presidents in attendance. Those seven were Irl Everett, John Lewis, Roger Pabian, Phyllis Parks, Fred Holbert, David Heffelbower and Charles Wooldridge. Thank you all for the continued support of your club.

The position of program chairman was graciously accepted by David Heffelbower. Thanks Dave for all the help. Fred Holbert has donated 4 flat display cases to the club.

Don't forget Geology Day in the park 2/15/98. See you there. Jerry Moore

The '98 Board of Directors is presenting this tentative budget for the general membership to study and accept. Please give it your attention and be ready for the question. P.Parks, Treasurer

Lincoln Gem & Mineral Club, Inc. Suggested Budget for 1998

ESTIMATED INCOME

Annual show	\$ 2,000.00
Interest	1,500.00
Membership dues	700.00
Miscellaneous Income	<u>200.00</u>

TOTAL INCOME \$ 4,400.00

ESTIMATED EXPENSE

Dues to Affiliate Organizations		
Friends of the State Museum	\$ 50.00	
Midwest Federation	140.00	
Nebr.Assn.Earth Science Clubs	<u>70.00</u>	\$ 260.00
Meeting Site Rental		1000.00
Insurance (Officer's bond & general Liability)		250.00
Pick & Shovel Publication/ mailing		500.00
Post Office Box Rental		60.00
Misc. Postage		100.00
Refreshments-		
Anniversary/Swap-Jan	125.00	
Show set-up	150.00	
General meetings	<u>85.00</u>	360.00
Scholarships (2 @ 175.00each)		350.00
Awards		100.00
Field Trip Expense/First Aid Kits		150.00
Historian		25.00
Librarian (Books, Magazine Binders, Bookcases)		300.00
Programs		150.00
Misc. Officer & Committee Exp.		300.00
(Sec. -\$25, Treas. -\$25, Membership -\$10, Sunshine -\$20, Corporation Fee -\$20.)		
Christmas Dinner Meeting		<u>250.00</u>

TOTAL EXPENSES \$ 4155.00

TENTATIVE GAIN \$ 245.00

January's Exhibitors

Many thanks to January's exhibitors. We had a most impressive array of materials. Unfortunately, most of the people got away before I got notes, so I am recalling the list from memory. Marcia Eddy-Hamilton brought in pyrope and rhodolite garnets; Jim and Phyllis Parks showed garnets; Charles Wooldridge brought in examples of rough and faceted pyrope, rhodolite, hessonite, and tsavolite garnets; Eddie Ridge showed several garnets and some calcite and barite crystals; David Heffelbower shows opal cabochons; Bill and Betty White provided examples of Prairie Agate solids and doublets; and Roger Pabian showed crystals of several garnet varieties.

February Exhibit Materials

Bring along examples of Amethyst and other varieties of quartz for comparison. I will bring along a polariscope and condenser so that you can learn to build and uses these instruments and see much more that will aid in your lapidary pursuits. Cases will be furnished.

Show Notes

The 40th Anniversary Show is progressing along and Bill and Betty White have made contact with a number of potential featured exhibits. If you know of something that might be a great display for the show, please let me know. We are looking for fine displays.

Jim Null has agreed to be floor manager for the show. He has had quite a bit of experience in setting up shows and is a welcome addition to the committee.

We will need people to work in all capacities beginning with set up, dealer set up, exhibit set up, programs, ticket sales, raffle sales, club booth, etc. We will need several people to volunteer to go to the stash early to bring all of the club properties that are used in the show. This includes cases, junior activity material, gem dig, etc. It is your show and it can only go on with your participation.

All of the fourteen dealers spots have now been filled and demonstrator's spots are in the process of being filled. We still have one or two openings in that department. More will follow at the general meeting. RKP

THE WORLD'S EASIEST QUIZ

- 1) How long did the Hundred Years War last?
- 2) Which country makes Panama Hats?
- 3) From which animal do we get catgut?
- 4) In which month do Russians celebrate the October Revolution?
- 5) What is a camel's hair brush made of?
- 6) The Canary Islands in the Pacific are named after what animal?
- 7) What was King George VI first name?
- 8) What color is a purple finch?
- 9) Where are Chinese gooseberries from?
- 10) How long did the Thirty Years War last?

ANSWERS

- 1) 116 years, from 1337 to 1453.
- 2) Ecuador.
- 3) From sheep and horses.
- 4) November. The Russian calendar was 13 days behind ours.
- 5) Squirrel fur.
- 6) The Latin name was Insularia Canaria-Island of the Dogs.
- 7) Albert. When he came to the Throne in 1936 he respected the wish of Queen Victoria ever be called Albert.
- 8) Distinctively crimson.
- 9) New Zealand.
- 10) Thirty years, of course. From 1618 to 1648.

This quizz copied from Feb. '98 'AFMS Newsletter edited by Mel Albright and credited to Hale Sweeny. I didn't find it very easy. How about you? Pick & Shovel Editor.

LINCOLN GEM & MINERAL CLUB, INC. - GENERAL MEETING - Jan. 24, 1998
 NCCE - 33rd & Holdrege - Scottsbluff/Minden Rms.

SWAP and Auctions - 1:00 P.M. to 5:00 P.M.
 General Meeting @ 7:30 P.M.

Meeting called to order by President Moore.
 Minutes and Treasurer's report were approved as printed.
 Hospitality Chairman Ed Ridge reported 17 members & 3 guests present.

Review of afternoon activities by Phyllis P. Proceeds of SWAP & Auctions will be published in Pick & Shovel.

COMMITTEE REPORTS: Roger P. reported on the Show progress. Needs Chairperson for Floor and Raffle; also help with NAOESCI Silent Auction.

ANNOUNCEMENTS:

Recipients had been chosen for presentation of 3 Scholarships at the Feb. General Meeting. (2-28)

Pres. announced the passing of Emma Baegl & Olga Olson, both former Club members.

We also have a new MWF State Director. She is Dolores Rose, from the Grand Island Club.

Also, delegates to the State Association Meeting (which will be held during our Show) are: Phyllis Parks, Charles Wooldridge, Dave Heffelbower, and Grant Bennett.

No further business, the meeting adjourned. Everyone enjoyed "44th Anniversary Cake" & coffee after a busy day.

Respectfully submitted,

Vera Lyman

Vera Lyman, Secretary

L.G.M.C. Treasurer's Report January 1998

	NBC Checking Balance 1/1/98	\$1373.96
Receipts:		
1998 Membership Dues	285.00	
Donations LGMC Edu/Sch.Memory Helena	1.75	
Silent Auction Proceeds Annual Swap	61.55	
Pick & Shovel Advertising 1997	45.00	
Suspense Gem Palette Subs by Members	16.25	
Youth Collections Fund	6.01	
Surcharge Swapper Bucks	66.65	
'98 Show Dealer Space	700.00	
Suspense Swapper Bucks Redemption	<u>155.00</u>	1337.21
Interest on Cert.Dep.Paid into Checking Account		161.82
Payments:		
Pick & Shovel Printing January	35.25	
Dues to Other Organizations	271.50	
(Midwest Fed.,NAOESCI,Friends)		
Rent Meeting Room(Board)	20.00	
Misc.copies,postage reports/forms	21.59	
Anniversary Cake Jan.Meet.	25.00	
Youth Expense at Swap	39.29	
'97 Account Payable-Sales Tax Show	239.97	
'98 Show Expenses	1355.87	
Suspense-Redeem Swapper Bucks	<u>155.00</u>	<u>2163.47</u>
	NBC Checking Balance 1/31/98	709.52

LINCOLN GEM & MINERAL CLUB, INC. - BOARD OF DIRECTORS - Jan. 7, 1998
 Kinkos, 48th & Vine, Conference Rm. - 7:00 P.M.
 All Board members present except 2nd Vice; plus Roger P. & Charles W.
 Meeting called to order by the newly elected President, Gerald Moore.
 Minutes were approved with motion by Phyllis P., 2nd by Jim Atkins.
 Treasurer's report approved with motion by Marcia Hamilton, 2nd by
 Ben Doe. Both motions carried.

BILLS: Were approved for payment with motion by Vera L., 2nd by Ed R.
 Carried.

OLD BUSINESS: Standing Committees reviewed. Chairpersons needed for
 Study Coordinator; Programs; Field Trips; 1999 Swap and 2000 Show.

NEW BUSINESS:

Scholarships - Recipients chosen from list provided by Scholarship
 Chairperson Susan Taylor which she had received from UNL. Two will
 receive grants from monies deposited with UNL Foundation. A third
 will receive a scholarship from "Helena Baegl Memorial" funds.
 Motion was made by Vera L. that Club add enough to Memorial fund for
 a \$200. grant. 2nd by Kay Jurgens. Motion carried.
 All 3 presentations will be made at our Feb. 28th Meeting.

PLAN. SWAP: All things are in order. There will be coffee in the after-
 noon during Swap, and also in evening for Meeting & Silent Auctions.
 44th Anniversary cake will also be served after the Meeting.

Future Meeting dates were planned, subject to availability of locations.
 They will be published in the Pick & Shovel.

SHOW: Roger Pabian, Chairperson, reported on the progress to this time.
 He plans to call Erma Pharoah to request assistance for NAOESCI Silent
 Auction at the Show (since it will be State Show in conjunction with ours.
 There will also be a Show Committee Meeting on Jan. 15 @ 7:00 P.M. at
 Roger's home.

No further business so Meeting adjourned.

Respectfully submitted,

Vera Lyman

Vera Lyman, Secretary

Please, come and celebrate our Ruby Anniversary with us!

Lincoln Gem & Mineral Club

Proudly Presents

its

40th Anniversary
 Gem and Mineral

Show

in conjunction with

the Nebraska State Show

March 21, 22, 1998

Pershing Municipal Auditorium

226 Centennial Mall South

Lincoln, Nebraska

"Those be rubies, fairy favors," from Shakespeare's
 Midsummer Nights Dream

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Admission

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 12, \$1.00. Children under
 12 free with adult.

Amethyst, February's Birthstone

Roger K. Pabian

Amethyst usually is a transparent variety of quartz that comes in shades of purple. Some translucent to opaque amethyst is also found and the purplish zones alternate with white or grayish areas. Color zonation can be very intense in transparent, translucent and opaque varieties. Amethyst is the traditional birth stone for the month of February.

Quartz in all varieties is **Silicon Dioxide, SiO₂**, it crystallizes in the **hexagonal** system, it has a **specific gravity of 2.66**, and it defines **7 on Mohs hardness scale**. it has **refractive indexes** ranging from **1.544 to 1.553**, it is **uniaxial, positive**, and may be strongly **dichroic** in several colored varieties.

Most of the amethyst that is used in the gem trade now comes from Brazil. Historically, the Ural Mountains in Russia produced many fine amethysts and thousands were acquired by Catherine the Great. The most desired hues ranged from deep purplish-red to purple-red and these stones were called Uralian or Siberian Amethyst, terms that are now color grades rather than source areas.

Amethysts from Brazil are mostly extracted from large geodes that are found in basalts of either Triassic or Jurassic age that crop out in the State of Rio Grande do Sul, in the southeastern corner of the country. Many of these geodes were commonly seen for sale in gem shows in the late 1980's and early 1990's, but fewer of them have been seen in the late 1990's. Many of the geodes with transparent amethyst were broken down to small crystals for the gem trade and this kind of geode is now fairly scarce intact.

Some very attractive amethyst has been produced in Mexico but most of it that has been of desirable gem shades formed in

crystals that were quite small and many of the larger crystals were not sufficiently toned to produce fine faceted gems. The amethyst from Mexico has produced many fine, large cabinet specimens that appear in both private and museum collections. When I first took up lapidary in 1961, there were some amethyst tips from Mexico that were nicely colored and produced fine cabochons but they were all nearly opaque. Some of the Mexico specimens had nice small phantom crystals of amethyst in a colorless body of rock crystal.

In North America a great deal of amethyst is extracted from mines in the Thunder Bay, Ontario, Canada, area. There are several commercial mines and several fee localities where one can pay to collect. The status of the mines and fee localities varies from year to year so it is best for one to write or call ahead before planning trips to these areas. Most of the amethyst from Thunder Bay is strongly color zoned and these zonations appear as *chevrons* if the cut is diagonal to the *c-axis* of the crystal or sometimes as *six triangles* of alternating purple and colorless or white areas if the cut is made perpendicular to the *c-axis* of the crystal. The latter have been called *Port Arthur Amethyst*. Port Arthur was the name of a port in the Kwantung Province of Manchuria; this area was an historic producer of very fine amethyst. Port Arthur was also the former name of Thunder Bay, Ontario. Which of the Port Arthurs yielded its name to that color zonation of amethyst is currently unknown to me. Some very fine examples of color zoned amethyst similar to the Port Arthur Amethyst appeared in shows in the early 1980's; this material was from India. I purchased several pieces of rough from an old time dealer at the Midwest Federation Show in West Allis, Wisconsin, in 1984, and the dealer stated that this material was generically Port Arthur Amethyst, citing the Asian derivative, and that was the first time I had heard the name. Some time later, I heard

the name Port Arthur applied to the Asian source from another dealer. Both stated that the color zonation formed triangles when the crystal was cut perpendicular to the c-axis.

The strong color zonations of the Port Arthur Amethyst is probably produced by numerous twinned crystals and twinning planes within the crystal. When observing a section of the India material under polarized light and with a condensing lens, very strong interference patterns are readily observed and the normally fine interference figure seen in most quartz appears to be a garbled set of figure superimposed over figure. (I will bring some examples of these to the meeting.)

Nebraska is not without its' amethyst. Some examples have been collected from small geodes that formed in the Grant Shale of Permian age that is exposed in several areas near Krider and Odell in Gage counties. The amethyst is nearly opaque to be sure and it will fade after exposure to light for a few days. If the amethyst is returned to a dark box, it will regain the purple color in a few days. It may be that the light energy displaces electrons in the chromatophores that color the amethyst. I have also found a couple of Lake Superior agates with amethyst centers and have observed several more in collections of agates made from the glacial tills in southeastern Nebraska.

Ametrine is an unusual form of amethyst that was not well-known in the gem trade until about the early 1970's. Ametrine has the same kind of color zonation as Port Arthur Amethyst but the zones are purple and yellow (citrine). The first ametrine was actually produced in the laboratory by treatment of heat and irradiation. In the late 1970's or early 1980's, large amounts of this gem came onto the market from Bolivia. Much of it was sold under the name *Bolivianite*. It was later learned that these stones were natural stones and came from near Anahi in extreme eastern Bolivia and in neighboring

Brazil. Because of legal restrictions on mining in that area, the earlier material was said to have been found in Paraguay, Uruguay, or Matto Grosso do Sul in Brazil. Natural ametrine actually consists of zones of citrine intergrown between zones of amethyst. In this sense, it differs from the laboratory produced material that was derived from color zoned Brazilian amethyst. That is to say, the trace element contents in the chromatophores that produce citrine and amethyst are significantly different in the yellow and purple portions of the ametrine crystal. Hence, ametrine should be considered a separate transparent variety of quartz.

If you are using amethyst for gem purposes, it can be a bit tricky to polish. The problems usually begin at about the time of the 600 grit sand if you are using carbide. It is much easier to sand and polish with diamond compounds. A very nice polish can be obtained by the time you get to the 14,000 grit. You may lose the polish if you try to bring up the polish with tin oxide on leather. There tends to be a lot of undercutting on the twinning planes. This problem can often be alleviated by putting a few drops of vinegar or oxalic acid in the water used for polishing. It seems to work if you can get the pH (concentration of Hydrogen [H⁺] ions in the water) on the weakly acidic side. Polish can be improved with the 50,000 diamond too.

For further reading.

- Hurlbut, C., 1963. *Dana's Manual of Mineralogy*, 17th Ed., John Wiley & sons, New York, 609 p.
- Schumann, W., 1977. *Gemstones of the World*. NAG Press, Ipswich, 256 p.
- Vasconcelos, P.M., Wenk, H.-R., and Rossman, G. R., 1994. The Anahi Ametrine Mine, Bolivia. *Gems and Gemology*, v. 30, no. 1, p. 4-23.
- Zeitner, J. C., 1996. *Gem and Lapidary Materials*. Geoscience Press, Inc., Tucson, Arizona, 347 p.

1998 ELECTED OFFICERS

President:	Jerry Moore, 2305 So.35th St.	Lincoln NE 68506	489-4184
1st Vice President	Edward Ridge, 2507 A Street.	Lincoln, NE 68502	477-8469
2nd Vice.Pres.	Shirley Rockel, 1134 W. Avon Lane	Lincoln, NE, 68505	464-3059
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:	Jim Atkins, 1333 So. 15, Apt. 1	Lincoln, NE 68502	438-2434
Board Member:	Kenneth Doe, 925 El Avado Ave.	Lincoln, NE 68504	466-4877
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

Nominating Committee

3 years	Roger Pabian Bill Rockel
2 year:	Shirley Rockel Kenneth Doe
1 year:	Vera Lyman Susan Taylor

Chairman: Immediate Past President

Long Range Planning & By-Laws Committee

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

Chairman: Immediate Past President

Standing Committees

Membership:	Shirley Rockel	Programs:	
Education:	Roger Pabian	MWF Liaison:	Vera Lyman
Field Trips:	Jerry Moore, Coordinator	Scholarship:	Susan Taylor
Historian:		Christmas Party	
Hospitality:	Eddie "Lightning" Ridge	1998 Show:	Roger K. Pabian
Study Coordinator:?		1999 Show:	Jim Marburger
Housing/Property:	Jim Parks	2000 Show:	
Youth Activities:	Kay Jurgens	1998 Swap:	Francis Belohlavy
Librarian:	Roger Pabian	1999 Swap:	

Auditing Committee:?

Gem Palette Correspondent:

Geology Day Coordinator: 2nd Vice President

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

<http://nesen.unl.edu/lgmc/lgmc.html>

Your PICK & SHOVEL Staff

Publisher:	Lincoln Gem & Mineral Club, Inc., P.O. Box 5342, Lincoln, NE 68505-0342
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Business Reporter:	Vera Lyman 464-6089
Circulation:	Jim Parks 476-6798

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

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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Read your bulletin for new materials or specials from the above advertisers.

Advertising by rock-hobby business or interest is permitted with the approval of the Board. The rate now set at \$15.00 per full page; \$7.50 per 1/2 page; \$5.00 per 1/3 page; and \$3.75 per 1/4 page(min) per issue, paid in advance. These ads will be placed through the bulletin as space permits.

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

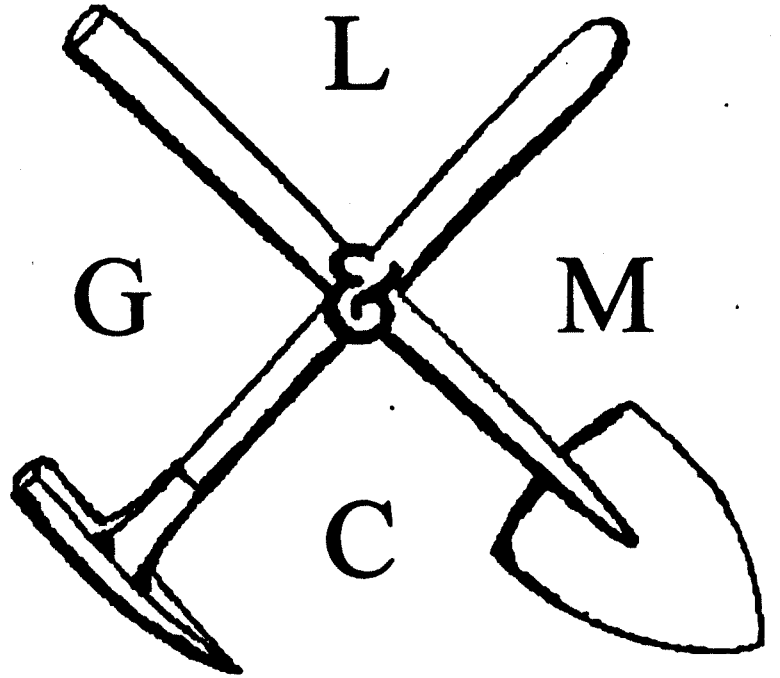
Dues to Lincoln Gem & Mineral Club are as follows:

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.

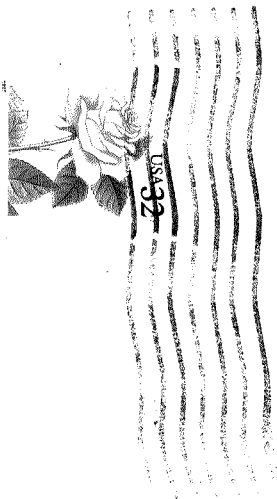
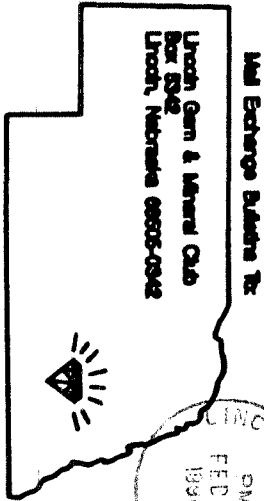
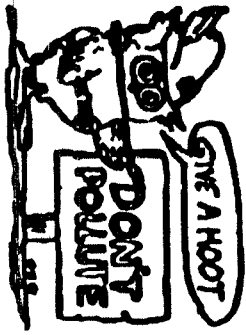
THE PICK & SHOVEL

FEBRUARY 1998



OFFICIAL PUBLICATION OF
LINCOLN GEM & MINERAL CLUB

LINCOLN, NEBRASKA



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