

THE PICK & SHOVEL



HAPPY 30th ANNIVERSARY

LG&MC

In this issue . . .

JANUARY 1985

ROCKHOUND'S TEN COMMANDMENTS

Greetings from Ev & Lois

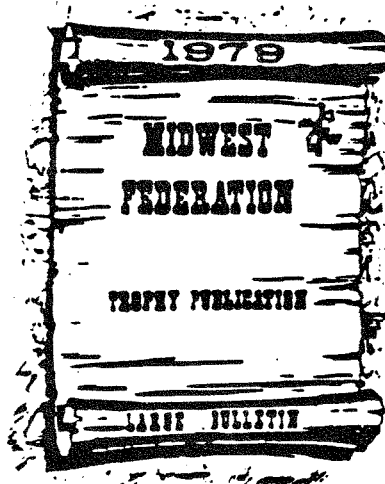
Word Search

STONE AGE TOOLS - and weapons

KNOW YOUR GOLD

Delegate Report

Show Report



OFFICIAL PUBLICATION OF

Lincoln Gem and Mineral Club, Inc.

P. O. Box 5342

Lincoln, Nebraska 68505

LINCOLN GEM AND MINERAL CLUB, INC.
P.O. BOX 5342, Lincoln, NE. 68505-0342

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.

MEMBER: American Federation of Mineralogical Societies (AFMS)
Midwest Federation of Mineralogical and Geological Societies (MWF)
Nebraska Association of Earth Science Clubs, Inc. (NAOESCI)
Nebraska Academy of Sciences (NAS) (Life membership)
Community Arts Council of Lincoln (CAC)

Regular Meetings: 4th Saturday of the month, September thru May: 7:30 P.M.
At Nebraska Center, 33rd & Holdrege

1985 ELECTED OFFICERS:

President	Claude Scott	4917 Normal Blvd.	Lincoln, 68506	488-0739
1st Vice Pres....	Roger Pabian	315 'D' St.	Lincoln, 68502	474-2034
2nd Vice Pres....	Linda Parks	2435 S. 19th St.	Lincoln, 68502	476-6798
Secretary.....	Vera Lyman	420 N. 56th St.	Lincoln, 68504	464-6089
Treasurer.....	Phyllis Parks	2435 S. 19th St.	Lincoln, 68502	476-6798
Board Member.....	Mark Mercier	3316 'R' St.	Lincoln, 68502	476-6242
Board Member.....	Jim Stewart	1339 Eastridge Dr.	Lincoln, 68510	489-2867
Board Member.....	Marie Taylor	910 New Hampshire	Lincoln, 68508	476-3707
Board Member.....	Janet Wright	3715 S. 33rd St.	Lincoln, 68508	488-1884

NOMINATING COMMITTEE -- 3 years: Vera Lyman, John Lewis
2 years: Jim Parks, Ervin Marshall
1 year: Richard Haney, Wilfrid Wittmann
Jim Taylor, Chairman

LONG RANGE PLANNING AND BY LAWS COMMITTEE:

1 year - Marie Taylor, Vera Lyman 3 years - Jim Taylor, Irl Everett
2 years - John Abel, Roger Pabian Jim Taylor, Chairman

STANDING COMMITTEE CHAIRPEOPLE:

Calling.....	Phyllis Parks	Membership.....	Linda Parks
	Marie Wells	MWF Liaison.....	Marie Taylor
Education/Publicity...	Roger Pabian	Programs.....	Bob & Mary Walker
Historian.....	John & Lillie Lewis	Scholarships.....	Marie Taylor
Hospitality.....	Susan Taylor	1985 Rockhound/yr...	Roger Pabian
Housing/Property.....	Claude Scott	1985 Annual Show....	Vera Lyman
Junior Activities.....	Janet Wright	1986 Annual Show....	Fred Holbert
Librarian.....	Jim Parks	Christmas Party.....	Marie Taylor

AUDITING COMMITTEE 1984.....John Abel, Ervin Marshall
Virginia Green, Phyllis Parks, Treas.

PICK & SHOVEL STAFF:

Editor.....David Heffelbower 1819 Washington, Lincoln, NE 68502
Asst. Editor....Vera Lyman 420 N. 56th St. Lincoln, NE 68504 (NAOESCI)
Sunshine Corner..Susan Taylor
Reporters.....Julius Young, "CLUB MEMBERS"

DEADLINE: 1st of Month of Issue. Original articles may be reprinted if credit is given the author and THE PICK & SHOVEL and a copy of the publication is sent to the Editor.

LINCOLN GEM & MINERAL CLUB - Board of Directors - Dec. 5, 1984

Meeting was called to order by President, Jim Taylor Dec. 5, 1984
7:00 P.M. at the Taylor home. Eight Board Members, Irl Everett
and Dave Heffelbower were present.

Minutes of the Nov. 7th meeting were read. Motion for approval by
Phyllis Parks, 2nd by Claude Scott. Motion carried.

Treasurer's report was read. Motion for approval by Jim Stewart,
2nd by Janet Wright. Motion carried.

BILLS: Paid but presented for approval
\$ 11.40 Marie Taylor (donuts for Nov. meeting)
13.71 Vera Lyman (100 copies of Mins. for P & S)
(Misc. copies for Board Members & P&S)
33.52 UN of NE (Nov. P & S Printing)

Motion for approval by Linda Parks, 2nd Marie Taylor. Carried

BILLS: '84 SHOW - For approval and payment
\$ 83.28 Dept. of Revenue (sales tax on gate receipts)
Motion for approval by Claude Scott, 2nd Vera Lyman. Carried

BILLS: Presented for approval and payment
\$ 12.50 Two Christmas Dinners (Person presenting program at
party & spouse - Irl & Lois Everett)
54.92 NE Center - Nov. Meeting Rm-30.00 and coffee-24.92
26.00 Postmaster-Lincoln ('85 P.O. Box Rent)
40.00 Postmaster-Lincoln (Precanceled stamp Permit #161)
35.53 Phyllis Parks (June picnic - 7.32)
(Treasurer's expenses - 10.64)
(NE Case expense - 1.67)
(Membership expense - 1.48)
(Library - 2.92)
('85 Swap - 11.50)
55.00 U.S. Post Office - Roll of 500 - 11¢ cancelled stamps
to mail P & S
7.00 Susan Taylor - Cards & Postage for Sunshine Corner
50.00 Marie Taylor - Christmas Party favors, candy & candles

'85 BILLS:
\$ 53.50 MWF Mineralogical Societies - '85 Membership dues
(103 adults @ 50¢ and \$ 2.00 for all Jr. members)
Motion for approval and payment by Janet Wright, 2nd Marie Taylor.
Carried.

'85 Dues to NAOESCI:
Motion by Vera Lyman, second by Claude Scott, that the Club
purchase Gem Palette subscription for each member family for 1985.
Motion carried. (\$ 36.05)

OLD BUSINESS:

Vera Lyman was asked at the Nov. meeting to check on price
of printing Club stationery with Accent Printing and also the
weight limit per mailing piece on our 11¢ cancelled stamp permit.
Information obtained as follows:

Board of Directors - Dec. 5, 1984 - continued

Accent Printing: Club Stationery - 500 envelopes \$ 17.25
- 500 sheets 15.75

If order is in on Tuesday before 4:00 P.M. we can have free ink choice for same price.

Motion by Jim Stewart that we purchase 500 sheets and envelopes of Club Stationery printed in royal blue. 2nd Linda Parks. Motion carried. Vera was asked to go ahead and make purchase.

Postal weight limit on each Pick & Shovel on Cancelled Stamp Permit #161 is 3.91 ounces.

Since the Postal Scale is no longer needed at this time to weigh Pick & Shovel, advised that it be turned over to Property Chairman, Claude Scott.

President Taylor was in contact with executive members of the State Association regarding PA system. They will meet and let Jim know. They were very excited about receiving the PA System from our Club. Dave Heffelbower will repair it first.

Phyllis Parks indicated that the Scottsbluff-Minden Rooms which had been reserved and printed Jan. Swap Flyers with same, had been taken. So the NE Center will let us use the Nebraska Room, North wing, ground floor for the Jan. Swap for the same price. (\$ 90.00) However, the prices have gone up on all rooms.

Scottsbluff Room - Feb. General Meeting
Norfolk Room - March General Meeting

★ FINANCIAL:

Irl Everett attended the Nov. Board Meeting and brought out some excellent points regarding the livelihood of the Club and its financial woes. As Founder of the Club he was very concerned.

All Board members were asked to think about these points and bring back suggestions to the Dec. meeting. Each member was given chance to respond. As follows:

Phyllis Parks - Explained possible options such as Money Market at NBC; regular savings and also Passbook savings.

Linda Parks - None

Janet Wright - Mainly concerned with vitality of Club as she had stated the previous month.

Jim Stewart - Had some ideas regarding investments Club could make. Namely, purchase equipment for new and junior members; anyone who does something for Club be paid for expenses; get new blood in Club; to notify public of scholarships

Vera Lyman - First, any funds in Club Scholarship/Education Fund be put in NE Academy of Science Scholarship and Club Fund be eliminated. Second, any interest from First Fed. CD be used to award Annual Scholarships at Show time each year and any balance be divided between AFMS and NAS Scholarships and maintain original amount. Third, any interest from First National CD be transferred to Transmatic or Savings at NBC to pay Delegate's expenses, Special Feature to annual show, and any Club expenses which may come up and maintain original amount. Fourth, agree with Irl that Annual Show keep separate account with Show Chairman as treasurer.

Board of Directors - Dec. 5, 1984 - continued

Marie Taylor - Agreed many of her views had been stated and agreed with many of the ideas.

Claude Scott - Thought we really should blow our own horn. Perhaps we could have something ready by Show Time. Spend some money to strengthen our Club.

Irl Everett - "I'm still an old die-hard." Feel interest has to come back to the basics; Rockhounding, Lapidary and Programs.

Jim Taylor - Many good comments - Pros and Cons. Some very good suggestions made. Agree with Irl on rebirth of LGMC. Must head in that direction and ask ourselves; What should we do? What do we need to do? What must we do?

Very lo-o-o-ng discussion followed.

-Motion by Vera Lyman that we renew \$ 5000.00 CD at First Federal on an annual basis. Any interest monies accrued during the year be used to award Annual Scholarship at Show time. (This amount being \$ 300.00 or any larger amount specified by Board of Directors; and mailed upon renewal date of CD each year to University Foundation) Deposit remainder in First Federal Transmatic and then apportion year by year according to directions of Board with some amount each year to AFMS Scholarship and NAS Scholarship Foundations. Thus maintaining an annual base of \$5000. in the account at First Federal.

Second to motion by Jim Stewart. Motion carried.

Action withheld on First National CD until Feb. '85 Board Meeting (prior to renewal on 3-6-85) as per discussion at Dec. '84 Board Meeting.

Phyllis Parks to write up brief on Club Education/Scholarship Fund (regarding proposed closing of this account)

MEMBERSHIP APPLICATION:

Emma Baegl - Sponsored by her sister Helena Baegl (member) Motion to accept as member effective 1-1-85 by Vera Lyman, second by Phyllis Parks. Carried.

NEW BUSINESS:

President Jim indicated he enjoyed the last 2 years as leader of the Club. Feels it is essential to establish new interest in Club. He will assist new Board.

January '85 of very special interest. 30th Anniversary of Club. Special issue of bulletin (Pick & Shovel) for Jan. '85, then enter it in Bulletin competition.

Would like to see mass effort to support MWF Show at Sioux Falls in '85.

Need to get out and Push, Push, Push!
Meeting adjourned.

Next Board Meeting under leadership of Claude Scott at 7:30 P.M. Jan. 3, 1985. Notified of location later.

Respectfully submitted, *Vera Lyman*
Vera Lyman, Secretary

Board of Directors - Jan. 3, 1985

TREASURER'S REPORT: 12-1-84 NBC Checking Balance \$ 533.87

December Receipts -

Advance 1985 Member Dues	81.00
Member Christmas Dinners	50.00
Donation to the club (Ashmuns)	100.00
Advertising 1984 P & S (Everetts)	45.00
	<hr/>
	\$ 276.00

December Disbursements -

Postmaster - Stamps for P & S	\$ 55.00
Postmaster - Bulk rate permit # 709	40.00
Postmaster - P.O. Box 5342 Rent	26.00
Sunshine committee (Susan Taylor)	7.00
Decorations Christmas Party (Marie Taylor)	50.00
1985 Swap flyers	11.50
MWF Membership dues	53.50
NAOESCI Membership dues	36.05
Misc. expense - Treasurer, Library, Membership	24.03
NE Center - November meeting (Room-30.00 Coffee-24.92)	54.92
NE Center - Christmas Party	373.44
(300.00 from suspense by members attending)	
(73.44 by Club for Tax-14.06 Gratuity-46.88	
12.50 Dinners for couple presenting program)	
(Irl & Lois Everett)	
	<hr/>
	\$ 731.44

December 31, 1984 NBC Checking Balance \$ 78.43

December 26th, 1984

Greetings to LG&MC:

We arrived here in South Texas last week; in fact December 19th. Weather has been good. In fact, one day it got up to 84° and Regular Gas is 96.9 per gallon.

There will not be any oranges and grapefruit this year. Last year all the trees and fruit froze, so it will be a time before the trees come back to full production.

We are getting ready to do our 2 January Shows while we are here. We have 2 Shows in January and 1 in February down here. Then we will be home in March for our own Show in Lincoln,

We have been checking out our suppliers and trying to buy some new items for our Show. We did buy some new Soapstone - Jade - and other carving and will buy the Onyx later on.

Our friends who were here last year have come back so we had a great time with them.

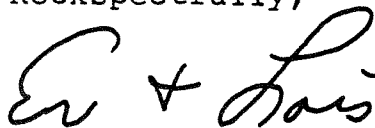
I've "volunteered" again to be the Activities Director and am planning our nightly doings. We already have had one slide program and some games for those who were here over Christmas and New Year.

Christmas Eve we had a Big Pizza Party and then Christmas Day some of us went out to a "Fancy" Motel and ate Christmas dinner.

It seems so funny down here because 1st there is NO snow and it's almost hot for Christmas. 2nd, these folks down here really celebrate Christmas. They do it in a different way. They have Fireworks on Christmas night and New Years night. Then on New Years Day the big meal always has Black Eyed Peas in the meal. They believe the Black Eyed Peas will make them prosper through the New Year.

Well, have a Good Winter, I know we will.

Rockspectfully,



Write me! OK? OK!

I. Everett
Rte. 2 Box 428
Edinburg Texas 78539



JUNIORS

A SUMMER FIELD TRIP

Andrea and I went to western Nebraska with our mother. She is studying rocks that are there. She was looking for fossil roots. My grandma and grandpa brought their camper. One day I got to go with my mom to an outcrop of Ogallala formation. We walked up the side of the hill. We saw a bull snake. At first we thought it might be a rattle snake. When we got up on top, my mom caught a horned toad for me. Then I had to go down to the bottem. There I found another horned lizard. On another day, grandpa helped my mom measure while we watched from the car. I got very very hot. Then we went back to the camp. After a couple of days we went home.

By Reagan Wright

* * * * *

ROCKHOUND

WORD SEARCH:

Find the rocks hiding in the puzzle.
The extra letters spell a secret message.

A	Q	U	A	M	A	R	I	N	E	M	P	A	T	C	J
G	U	E	E	I	N	U	W	N	R	E	E	I	U	H	A
A	A	G	R	C	E	B	O	A	R	Y	A	R	R	R	D
T	R	R	C	A	L	Y	O	I	O	L	R	O	Q	Y	E
E	T	O	N	G	A	J	D	D	S	A	L	T	U	S	N
T	Z	N	A	E	G	O	A	I	E	V	L	C	O	O	I
I	P	Y	R	I	T	E	H	S	A	A	R	I	I	P	L
N	I	X	S	D	L	C	G	B	P	M	C	V	S	R	A
O	E	M	E	R	A	L	D	O	G	E	O	D	E	A	M
Z	I	R	C	O	N	O	Y	N	A	C	R	N	T	S	R
A	L	L	O	C	O	S	Y	R	H	C	A	M	D	E	U
M	A	S	A	P	P	H	I	R	E	V	L	I	S	S	O
A	M	M	O	N	I	T	E	T	I	B	O	L	I	R	T

Words are hidden backwards,
forwards, horizontally, vertically,
and diagonally.

word list

- | | |
|-----------------|------------------|
| agate | obsidian |
| amazonite | onyx |
| ammonite | opal |
| aquamarine | pearl |
| beryl | peridot |
| canyon (teepee) | pyrite |
| chrysocolla | quartz |
| chrysoprase | rose (quartz) |
| coral | ruby |
| diamond | salt |
| emerald | sapphire |
| galena | silver |
| garnet | tourmaline |
| gem | trilobite |
| geode | turquoise |
| gold | victoria (stone) |
| jade | wood (petrified) |
| jasper | yag |
| lava | zircon |
| mica | |

- Courtesy of Linda Parks

* Belated secret message on Page 12

STONE AGE TOOLS - and weapons

"A tool is a contrivance, usually manually operated, employed in mechanical processes." That is essentially a brief dictionary definition. It fits a host of devices - many with long histories. All may be examples of the physicist's so-called simple machines, generally included in six different basic forms. (lever, pulley, screw, wedge, inclined plane and wheel-and-axle)

During my 42 years of science teaching I considered only 2 or 3 of the 6 as fundamental, because some are closely related. For example, the screw is a continual spiral inclined plane. I remember a rather amusing class session when we were grouping different common articles in the simple machine categories. One teen-ager from a large family of youngsters suggested we classify the common safety pin. Immediately, another whiz-kid gave his opinion - "That aint no ma-chine, it's jewelry!"

Rockhounds know rock materials may become tools as well as jewelry. Archaeologists have discovered man-made artifacts which they believe to be 2,000,000 years old. Their antiquity had not been fully recognized until about 100 years ago; modern date reckoning methods point to even greater age.

The time span through 3 stone ages, paleolithic (early), mesolithic (middle), and neolithic (new), was about 400 times longer than the 5000 years during which human beings learned to use metals. ("lithic" is from the Greek word "lithos" for stone). The traditional age system includes the stone ages followed by the bronze and the iron ages. The iron age includes more than the well-known ferrous metals. Bronze is mostly copper and tin alloy. (brass is copper and zinc) Gold and silver ages are sometimes recognized before the bronze.

Gold (the noble metal) and silver are not as abundant on earth as some of the less glamorous metals, but were used long before the "Cheapies" because they were found in the "free state". They required less technical knowledge and machinery for processing and using them. Aluminum, though the most plentiful of all, was a late-comer because of processing difficulties. (no nuggets)

Man was able to survive and populate the habitable parts of the earth long before the age of metals. Stone was the principal material used in human progress, especially in tools, weapons and architecture. Artifacts of bone, skin, shell, and wood are seldom found because they decay more rapidly. Some have been preserved in caves and protected areas. They may have been more widely used than once thought.

Scientists have partially explained how stone materials were first found and shaped. Rocks were broken or smashed by natural forces or by man to form a cutting edge. It is not easy to determine what specimens may have been "worked". Stones may be slightly shaped by temperature changes, falling, or by water, ice or wind.

STONE AGE TOOLS - and weapons - continued

Paleolithic man shaped stone tools by flaking techniques for untold thousands of years. Grinding was introduced in neolithic or more recent times. Flaking was used in all stone ages. Of course, there has always been overlapping of methods and times. Stone age people are still found in some remote parts of the world. (They may survive the "moderns".)

Prehistoric man sought three main qualities in flaking materials; hardness, low tenacity (breakability) and homogeneity. Materials may differ greatly in any or all three. Hardness is necessary for tools to cut, splinter or grind all kinds of matter, organic or inorganic. The other two qualities have much to do with the processing or shaping of the tool. The understanding grew with the times.

Siliceous materials containing quartz are among the hardest common natural substances, and they comprise much of the earth's crust. Stone age man did not know the chemistry of it all, but he knew how to use these related "rocks". Here are some of the better known ones: chalcedony, jasper, obsidian, quartzite, flint and cherts. He also used fossil wood, slate and shale and even silicified volcanic ash. When necessary he "made do" with limestone rocks and wood.

Until about 200 years ago people had little understanding and appreciation for the importance of artifacts in the long story of human history. Many believed various objects were natural formations, not man-made. Stone axes, arrowheads, projectile points, scrapers and other artifacts, all were believed to be "works of nature". They were called "thunderstones" or "thunderbolts", caused by lightning!

As late as the 1800's, in France and Scandinavia, builders placed "pierres de foudre" (stones of thunder) in walls of farmhouses to protect from lightning. They still believed it never struck but once in the same place. (fooling the lightning) That was not just peasants' superstition. Scholars called the stones "ceraunias," from the Greek word for thunderbolt, "keraunos". Some people even believed metal objects could become stone by action of lightning!

Rockhounds hunting gemstone materials should also look for artifacts, whether or not they know the French or Greek. Good scrapers are often overlooked; and some of them are shaped for "southpaws," instead of for conventional right-handers.

A delightful diversion from the popular "run-of-the-mill" trivia paperback books is "TOOLS OF THE OLD AND NEW STONE AGE", a 145 page paperback, by Jacques Bordas for American Museum of Natural History. Mine cost only \$ 2.95.

- Submitted by J.D. Young

KNOW YOUR GOLD

Gold in its pure form is very soft. In order for a piece to wear well, man has learned that gold must be combined with a harder metal. Gold combined with copper, silver or nickel forms an alloy which has all the beauty of gold plus the durability of the added metal.

KARAT GOLD

- 24 Karat Gold. 24 parts gold
- 18 Karat Gold. . . . 18 parts gold and 6 parts other metal
- 14 Karat Gold. . . . 14 parts gold and 10 parts other metal
- 10 Karat Gold. . . . 10 parts gold and 14 parts other metal

The addition of different metals to gold produces gold alloys of the following colors:

- Copper and Gold. Pink Gold
- Silver and Gold. Green Gold
- Nickel and Gold. White Gold

TROY OUNCE:

All precious metals and jewels are weighed using the Troy Ounce, which is 12 ounces to the pound.

- 1 pennyweight = 24 grains
- 1 ounce = 20 pennyweight
- 1 pound = 12 ounces

GOLD PLATE:

A piece of jewelry is made from a less expensive metal, perhaps brass or copper. This piece is put into an acid solution in which a bar of gold is suspended. Then an electric current is passed through the solution carrying minute particles of gold to the brass piece of jewelry to which these particles attach themselves. The thickness of the gold plate depends upon the length of time the piece is left in the solution. Gold plated jewelry is less expensive than gold-filled jewelry, as the amount of gold used is a fraction of that used in a gold-filled article.

GOLD-FILLED:

If you were to look at a cross section of a piece made from gold-filled material it would look like a sandwich.

This sheet of Karat Gold must be at least 10 Karat quality and contain at least 1/20 of the total weight of the article of jewelry in which it is used. Pieces marked 1/20 10K means a sheet of 10 Karat Gold has been used to cover the base metal.

KNOW YOUR GOLD - continued

ROLLED GOLD:

Rolled gold is made the same as gold filled. In the rolled gold the difference is that the karat gold covering the base metal is thinner, also the weight of gold is less. A sheet as thin as 1/1000 of an inch may be used. The amount of gold in proportion to the total weight of the article may vary from 1/2 to 1/40.

PINCHBECK:

Pinchbeck looks like gold but is not. It is an alloy of copper and zinc with a gold-wash. This material was developed by a watchmaker in the 18th century. The secret of his formula for this metal has never been discovered. You find it quite often in pieces containing rose cut garnets.

CARE OF JEWELRY:

Gold jewelry may be washed in hot sudsy water to which a little ammonia has been added. This way of cleaning should not be used if the stones are imitations having foil backs. A soft toothbrush helps get dust and dirt out of the crevices.

No gold is free from tarnish, even 24 Karat Gold will tarnish. Also there is a complaint that jewelry will turn a person's skin green or dark. This is true of 24 Karat Gold as well as the plated piece. It has to do with the chemicals in a person's body.

Gold pieces of jewelry will polish quicker than plated or filled pieces when rubbed with tissue or a piece of soft cloth.

from FIRST HANDBOOK ON ANTIQUE JEWELRY
via GEMS .

TURTLES WERE ONCE MONSTERS-----

One of the largest turtles ever on record was the Archon that lived approximately 200 million years ago in the ocean. A fossil of one of these monsters can be seen in the Peabody Museum at Yale University. It was found in North Dakota and measured eleven feet long and twelve feet across the flippers.

Milwaukee Journal via Oshkosh Quarrier

HELPFUL HINTS-----

For field trippers in areas with no water, carry a can of shaving cream, pushbutton type, for cleaning hands. A squirt, a washing motion of the hands, then wipe off. Presto--clean hands!

Via The LOUP SCOOP

- All via THE GEODE, Oct. '84
- Contributed by Vera Lyman



FROM YOUR LIBRARIAN - The club recently acquired a group of books from Irl and Lois Everett which have now been catalogued and placed with the rest of our Library. Thank You Lois and Evy for sharing these volumes with us. Several of these books should appeal to the serious geologist and student.

- Arizona Gem Fields, Alton Duke, 1956.
- The Changing Science of Mineralogy, Cornelius S. Hurlbut, Jr., & Henry E. Wenden, 1964.
- College Geology, Thomas C. Chamberlin & Rollin D. Salisbury, 1909.
- The Curved or Faceless Group, Howard Barnes, 1974.
- Field Book of Common Rocks and Minerals, Frederic B. Loomis, 1923.
- How to Know the Minerals and Rocks, Richard M. Pearl, 1955. (2 copies)
- How to Preserve Animal and Other Specimens in Clear Plastic, Cleo E. Harden, 1963.
- Introductory Geology, Thomas C. Chamberlin & Rollin D. Salisbury, 1914.
- Nuclear Terms: A Brief Glossary, U.S. Atomic Energy Commission/Division of Technical Information.
- Optical Mineralogy (formerly Thin Section Mineralogy), Austin F. Rogers & Paul F. Kerr, 1942.
- Physical Geology and Man, Kenneth K. Landes, 1948.
- Principles of Geology, James Giluly, A. C. Waters, & A. O. Woodford, (2nd edition), 1951.
- Principles of Geomorphology, William D. Thornbury, 1954.
- Structural Geology, Charles M. Nevin, (4th edition), 1931.
- A Textbook of Geology, Amadeus W. Grabau, 1920.

This year we also received books courtesy of Marian Waddle from the collection of C. Ray (pappy). As you can see by the dates printed, some are well-used and quite fragile. Thanks to Mrs. Waddle for sharing them with us.

- American Gem Cabochons, William C. McKinley, 1939.
- A Complete Treatise on the Electro-Deposition of Metals, Dr. George Langvein, (translated from the 6th German edition), 1909.
- Elements of Mineralogy, Frank Rutley, 1916.
- A Field Guide to Rocks and Minerals, F. H. Pough, (3rd edition), 1960.
- Handbook & Catalogue of Collections of Gems & Precious Stones in U.S. Nat'l Museum, G. P. Merrill, Head Curator of Geology, 1922. (very fragile)
- A Handbook of Rocks: For Use Without the Microscope, James F. Kemp, (2nd edition, revised from 1896), 1900.
- How to Prospect for Uranium, Harry Kursh, 1955.
- Jewelry Gem Cutting and Metalcraft, William T. Baxter, (revised edition), 1938.
- A Key to Precious Stones, L. J. Spencer, 1946.
- Mineral Resources of the United States, G. F. Loughlin, 1922.
- Minerals and Gemstones of Nebraska, Roger K. Pabian, 1971.
- Minerals of Colorado: A 100 Year Record, Edwin B. Eckel, 1961.
- Prospecting for Uranium, USAEC & USGS, 1951.
- Record in Rock, Roger K. Pabian, 1970.

miscellaneous pamphlets and folders

Remember - These publications and any other club volumes may be checked out from Jim Parks at Hurlbut's, 7331 Thayer St., 9:30 to 5:30 weekdays, 9:30 to 4 Saturday.

FROM YOUR LIBRARIAN: - continued

Thanks to Lois and Irl Everett for 2 more additions to our club library:

The Curved or Faceless Group, Howard Barnes, (1st edition), 1973.

Rock Collecting in the State of Iowa, a folder.

Now is a good time to do some reading for your hobby. We have books covering all phases of rockhounding--from field trips to identification to lapidary.

Call 466-5440 days or 476-6798 evenings if you'd like some particular book brought to the next meeting.

--Jim Parks, LGMC Librarian

Delegate Report:

Delegate Report-1984 Nebraska Association of Earth Science Clubs, Inc.

The 1984 NAOESCI Annual Delegates Meeting was called to order by President Wayne Bucholz at 1:30 P.M. on Sunday October 21 at Grand Island in conjunction with the State Show, hosted by The Grand Island Earth Science Society.

Forty Delegates representing 13 of the Nebraska clubs answered the roll call by Secretary Margaret Hohnholt. LGMC Delegates were Claud Scott, Marie Taylor, Jim Taylor and Phyllis Parks.

Printed minutes were provided and were approved as printed. Treasurer's report were approved as printed.

The Editor of Gem Palette reported 332 subscriptions.

NAOESCI has a total of 789 members as of 10-21-84 from 18 clubs.

The Board of Directors in their meeting earlier in the day had decided to recommend that Gem Palette subscriptions be raised from \$1.00 to \$2.00 as they can not be printed and mailed for \$1.00 and some new equipment has been necessary. Motion was made and passed to change. Later motion was made to make the raise effective January 1986, thus giving all of the clubs time to prepare for it.

The 1985 State Swap will be at Lexington the first weekend in May, and there are no bids for 1985 State Show.

Discussion held regarding ideas needed to stimulate interest in clubs and in the State Association.

Judy Svoboda of Grand Island was appointed as new Program Chairman.

The Nominating Committee presented a slate of candidates for 1985 and there being no nominations from the floor the Ballet was elected -

President-Wayne Buchholz

Vice Pres.-Connie McCartney

Secy-Treas.-Margaret Hohnholt

Directors for 2 year term-Earl McGuire and Ralph Knudson

Nominating Committee for 3 year term-Salma Hammond, Cliff Eickhoff

A big vote of thanks was given the Grand Island Club for their hospitality and a good show before adjourning.

BY POPULAR DEMAND

When I discontinued these short notes about a year and a half ago, I did not realize how many readers from all over Nebraska and the Midwest Federation would react to my decision. I feel somewhat refreshed after taking a vacation from a monthly task---I am glad that I took some time to regroup, and I am indeed pleased to know these items had such a large readership in both our own club's bulletin and in many exchange bulletins. This new series of short gemological notes will appear on a quasi-monthly basis. Thank you for your interest and support. RKP

WHATS IN AN OVAL?

Probably every lapidary in the world began by cutting an oval cabochon. It is the elementary cut on which most students learn their skill. In my article "Freeform or Accident," that was published in "Gems and Minerals" in March, 1980, an oval cabochon was generated by rotating an ellipse and passing a plane through it in a direction that is parallel to the axis of rotation. An ellipse is a conic section in analytic geometry. The conic sections are shown by Figure 1. Other conic sections include the circle, parabola, and hyperbola.

A circle can be viewed as an ellipse that has both axes of equal length, and it is algebraically expressed by the equation (radius)² = $r^2 = x^2 + y^2$. The ellipse is expressed by the equation $x^2/a^2 + y^2/b^2 = 1$. The ellipse is symmetric to both the x and y axes in a x-y coordinate system and is also symmetric to the origin, where x and y equal zero. If $x^2/a^2 + y^2/b^2 = 1$ is solved for y, we obtain

$$y = \pm b/a\sqrt{a^2 - x^2}.$$

Since the ellipse is symmetric to both axes, when $y = 0$, $x = a$ and $-a$, and when $x = 0$, $y = b$ and $-b$, and the ellipse lies in the rectangle determined by these four lines. To the cabochon cutter, this bit of theoretical examination of the ellipse has some very practical applications. See Figure 2.

The main application is that the lapidary can use the rectangle determined by the four lines above as the picture frame when marking cabochons. It is much easier to frame a picture or an agate pattern in the rectangle and then mark the ellipse, cut, finish, etc.

In figure 2, an ellipse is laid out on a coordinate system and framed by the four lines. The x and y axes can serve the cutter as base lines. The base lines may be perpendicular to the orientation shown here---that is the long axis may be on the y axis. When marking a stone, it often pays to draw a pencil line along the center of the desired pattern. This center line can be lined up parallel to the base line or coordinate axis and a proper mark for the design will almost automatically result.

I do not cut many cabochons for jewelry purposes but, rather, for ornaments to look at and enjoy. The templates I use are ellipse templates that range up to seven inches along the long axis. Pickett brand templates for giant ellipses of 30, 45, and 60 degrees are very good for making large, ornamental cabochons. Their numbers are 1230, 1245, and 1260 respectively. The Post Master Ellipse Template 2979-R has smaller ellipses 5/8 to 1 3/8 inches graduated in 10 degree increments from 10 thru 60 degrees. Opal cutters will find the Handy Ellipse Template No. 603 very handy as

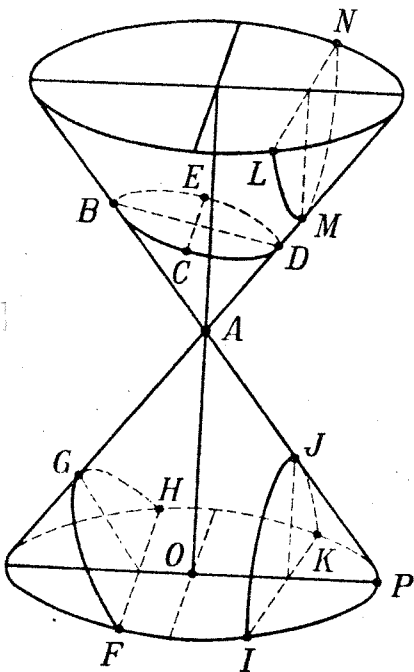


Fig. 1. Conic sections.

it has 80 ellipses graduated in 5 degree increments from 15 to 60 degrees with axes ranging from 5/64 to 5/8 of an inch. Templates for these ellipses are stocked by a few lapidary shops and by almost all college book stores or drafting supply houses.

What is meant by a 15 degree ellipse, a 60 degree ellipse, etc., can be explained as follows: If you look down at a round pipe, it will appear as a circle in cross section. If your line of sight remains constant and the pipe is tilted so that it slants at 60 degrees to the horizontal, the circular section will be shorter along one axis. If the pipe is tilted so that its axis is 15 degrees to the horizontal and your line of sight remains constant, the one axis is even further shortened. Try it with something round---you will see the change immediately.

When using giant ellipse templates, sizes over 1½ inches are cut as half-ellipses. To mark stones, make the straight pencil line along the middle of the selected design. Mark the one half of the stone, rotate the template 180 degrees any direction, line up, and mark the second half.

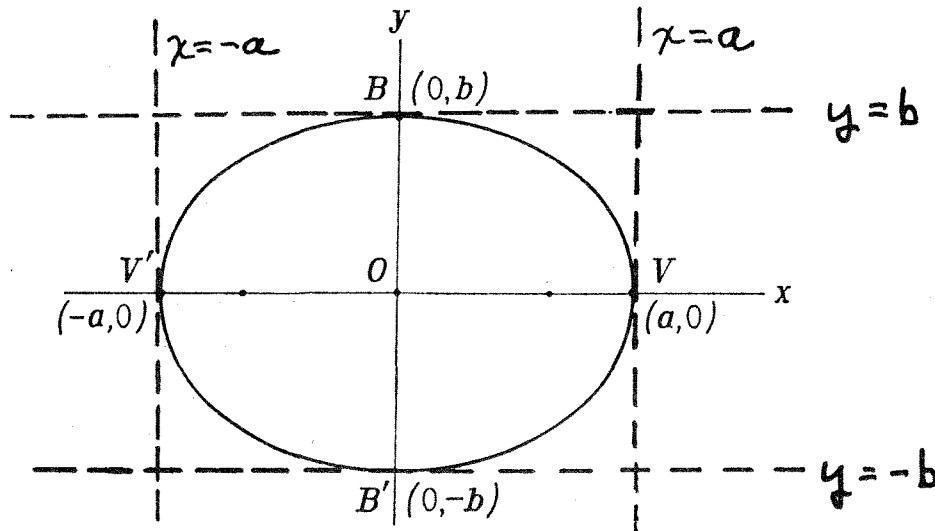


Figure 2. A standard ellipse defined by the equation $x^2/a^2 + y^2/b^2 = 1$. The four lines, $x = a$, $x = -a$, $y = b$, and $y = -b$ define a rectangle that can be very helpful in framing the picture or pattern desired in a cabochon.

At the risk of belaboring a point, I hope that the above has helped to show the restrictions that analytical geometry can place on the definition of a cabochon in space, but also that it has helped remove any artificial restrictions the cutter has had to cope with. The principal artificial restriction, of course, is not to use the rectangle that is defined by the ellipse as an aid in framing the picture or pattern. The other artificial restriction is not to use the base line that is either of the coordinate axes. Just because these do not appear on the template does not mean they are not there.

Display items for the January meeting will be cabochons, any cut, any kind of material from anywhere. Cases will be furnished.

I will bring in some ellipse templates too. I will demonstrate how to use them for marking very large cabochons as well as show how to develop the rectangle for framing.

Roger Pabian

"Show Report"

The Show Committee held its third meeting on Monday, January 7, 1985. Many decisions were finalized, with only "time" confirmations necessary to be made.

Since the Show does fall on St. Patrick's Day, the theme of the Show will be "ST. PATTY'S TRAIL OF GREEN". It will involve such special displays as Malachite, Jade, etc. We sincerely hope that you have your displays all ready for the Show. The remaining chores will require the support of all Club Members.



Set up, tear down, sell tickets, take tickets, sell raffle tickets, and anything else that needs to be done to

make this Show another success for LG&MC.

Sign-up sheets will be available for many different duties at the January and February General Meetings.

We're counting on each of you.



'85 Show Committee
Vera Lyman, Chairperson

* * * * *

SHOP HELPS:

Take several dowels and cut them about 4" long. Drill a small hole in the end. Then select assorted sized heads of screws and screw them in the end of the dowel. When you dop, heat the screw and add dop. Then dop your stones on the screw. This works real good for smaller stones.

To keep your small tools from getting lost on your silver work bench, just stick the points in a sheet of styrofoam which you can get at the local 10¢ store.

When doing all the same sized cabachons. glue them all together in layers. If you are doing 30 X 40's, you glue the trimmed out pre-forms all together. Then you rough out all the outside to your template mark. After you get them all to shape, you peel them off one at a time and do your domeing. This is a good way if you tumble polish your cabs. All you have to do on tumbling cabs is to shape the outside edge, then dome them on the coarse grind wheel. Throw them in the tumbler at this stage and go through your normal tumbling phase.

See you at the Show, "EV"

WHY ARE FIRE TRUCKS RED?

Fire trucks have four wheels and eight fire fighters, and four plus eight are twelve. There are twelve inches in a foot. A foot is a ruler. Queen Elizabeth is a ruler, and the Queen Elizabeth is the largest ship on the seven seas. Seas have fish. Fish have fins. The Finns fought the Russians. Fire trucks are always rushin. Therefore, fire trucks are usually red!

WINTER BLAHS GOT YOU DOWN???

come to the January rock swap!

Hosted by: The Lincoln Gem & Mineral Club,, Inc.

Date: January 26, 1985, 10:00 A.M. to 5:00 P.M.

Followed by: Club's 30th Anniversary Meeting, Program & Celebration
beginning at 7:30 P.M.

To be held at: Nebraska Center for Continuing Education,
33rd and Holdrege Streets, 1st floor -
The Nebraska Room, North Annex-West door loading

Tables, chairs and coffee will be provided -
Food available nearby.

Bring some rocks, gems, minerals, fossils, stories, to swap with other
Rockhounds.

. . .Direct swapping or swapper bucks only. . .

Silent Auction - Proceeds to one of LGMC's Scholarships.

You're all invited to come and join us for a fun time. Club members
and Guests have enjoyed this event yearly since our first one January 1979.

Some of the best swapping has been in the tall tales division.

7th ANNUAL INDOOR SWAP

For further information call Phyllis or Lyn Parks - 476-6798 or 466-5440.

Midwest Federations NEWSLETTER

Published monthly except July and August as a service to member clubs. All news and articles should be sent to the Editor, Mrs. BETTE SMITH, 10807 Mary Ann, Zealand, MI 49484. All subscription orders should be sent to Parrot Printing Service, 2125 Forest Ave., Des Moines, IA 50311.

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JANUARY 1985 - Issue No. 250

Prize winning bulletins receive AFMS awards

The 1984 AFMS Bulletin and Article Contests are over, and the MWF winners are.....

ORIGINAL ARTICLES JUNIOR 3. "My Dream Fossil",
Tanya Esmond (10), Rock Rammer, Mildred Heckert, Ed., Elgin
Rock & Mineral Society, Illinois.

ADULT - ADVANCED 1. "The Third Planet - Earth (Milwaukee Public Museum)", Jean Reynolds, Ed., Earth Science News, Earth Science Club of Northern Illinois. 2. "Computerized Micromounts", Esther Behnke, Earth Science News, Jean Reynolds, Ed., Earth Science Club of Northern Illinois. 5. "More Tools For Field Trips", Jean Reynolds, Ed., Earth Science News, Earth Science Club of Northern Illinois. 6. "The Simple And Wonderful Jewelers SAW", Dick Rowe, Smoke Signals, Delores Bates, Ed., Blackhawk Gem & Mineral Club, Illinois. 10. "Antarctic Minerals", Dan Muszynski, Rocky Reader, Frances Bush, Ed., Toledo Gem & Rockhound Club, Ohio.

ADULT 4. "Fun at Herkimer", Harold Vanderbilt, The Tully, Betty Van Erden, Ed., Park Forest Earth Science Club, Illinois.

MEMBER PUBLICATIONS NEW EDITORS 3. The Rocky Reader, Frances Bush, Toledo Gem & Rockhound Club, Ohio 8. Rock Dust, Gladys Holliday, Sioux Empire Gem & Mineral Society, South Dakota

MINI BULLETINS 1. The Kentucky Agate, Miles M. Smith, Capital City Gem & Mineral Club, Kentucky. 4. Worthen Worthy Notes, Irma W. Bradley, Worthen Earth Searchers, Illinois. 5. The Conglomerate, Peggy Gochenour, Blue Grass Gem & Mineral Club, Kentucky. 9. Mastodon Tracks, Gert Larson, Badlands-Sandhills Earth Science Club, South Dakota.

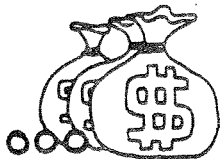
SMALL BULLETINS 10. The Rock Tablet, Carol Anderson, Neville Public Museum Geology Club, Wisconsin.

LARGE BULLETINS 1. The Trilobite, Margaret Pearson, Wisconsin Geological Society, Wisconsin. 2. The Earth Science News, Jean Reynolds, Earth Science Club of Northern Illinois. 3. The Tully, Betty Van Erden, Park Forest Earth Science Club, Illinois. 6. The Opal, Lois McMahon, West Suburban Lapidary Club, Illinois. 7. Crystal Cluster, Mary Ann Gaydos, Des Plaines Valley Geological Society, Illinois.

Mary Boland, Wisconsin State Director, announces the appointment of Ellen Brown Assistant State Director, Wisconsin. Ellen is a member of the Wisconsin Geological Society.

ARE YOU A MICROMOUNTER??? INTERESTED IN A NEWSLETTER??? Contact Rose Ann Fox, 3476 Cornell Place, Cincinnati, Ohio, for information.

Louise Stinnett reports that she and her husband assumed the Chairmanship of the MWF Film Library in October 1973. They went to work mailing programs -- one of which was finally returned in July 1984. This program is now available. #144 The Sterling Age - 71 slides by Chuck and Milly Kiser. Please return programs promptly.

FINANCIAL REPORT

This is an abbreviated report submitted by Kitty Starbuck Chairman of a Financial Committee organized to try to come up with a balanced budget. Other members of the committee are: Bill and Marian Parch, Esther and Bob Mullaly and Marve Starbuck.

"It is obvious that if we continue to spend at the rate we have in the past, we have been losing \$5,000 - \$6,000 a year, the Federation will be broke in two years. So, therefore, this is what we as a Finance Committee came up with" (Excerpts - Ed)

CREDENTIALS: The Credentials Chairman - Delegate form be mailed to the current Show Chairman, who will duplicate the form and enclose it with the "Show Packet". Figured at postage of 23¢, one form to each of 265 clubs, this would be a savings of \$60.95.

NEWSLETTER: Cut to 9 issues, eliminating June. Increase to 4¢ per copy. Increase postage slightly. By cutting to nine months, this would eliminate one months printing bill of approximately \$500.00. The present postage for the Newsletter is based on the time postage rates were 15¢ an ounce. By dropping a month, preferably June, raising the price to 4¢ a copy, raising postage slightly, based on a minimum of 75 copies a month to 90 clubs (which is the number ordering now), this should generate approximately \$1,5000.

B.E.N.: Cut budget to \$400.00 - this to be used to print one issue of B.E.N., and this to also include all other expenses of the job. Information pertinent to Editors only be printed. The average cost of last 6 issues of the B.E.N. has been \$215.00. Cutting to one issue will save \$645.00. Cancelling bulk permit at Quincy will save \$40.00. (B.E.N. to be prepared and made ready for mailing, shipped UPS to Jean Reynolds (bulk mailing permit) who will mail) For a total saving of \$685.00.

BULLETIN CONTEST: Plaques be given to first place winners only. Balance of awards to be certificates. In 1984 26 plaques were given at a cost of \$5.25 each. This would cut the winning plaques to 4. At a saving (certificates cost approximately \$.50 each) of \$104.50

DIRECTORY: Cut the list considerably. One directory to be sent to each club, instead of the two now sent. Print 500 at a cost of \$1.75 each. 1984 printed 1,024. Saving of \$1,161.51.

DIRECTOR OF SUPPLIES: State Directors and Assistants inform Clubs of MWF items that are for sale. A more concentrated effort be made to let clubs know what the MWF is, and how it can benefit them. A list of items available through the Federation is on page 6 of the Directory.

EDUCATION: In 1984, "Education Thru Sharing" forms were mailed to 265 clubs at a cost of 24¢ each, for a total of \$63.47. Of these 265 forms mailed out, there were only 17 responses. (The November Newsletter had the forms included - write to Margaret Pearson for further information. Ed.)

PROGRAMS: Budget figure is for office operation only. Place a one year moratorium on duplicating of programs during this 1984-85 budget year. This would be a savings of approximately \$750.00. No printing of program list will save \$50.00. With the \$5.00 rental fee, the program will become self-supporting.

UNIFORM RULES: Budget to be \$500.00. This to cover all expenses of Uniform Rules, including trophies. Eliminate the frequent need of printing the Uniform Rules Book, it be made a loose-leaf booklet. Costs for the Committee for the past 2 years has been - 1983, \$2,184.00 and 1984, \$1,140.00.

TOTAL SAVINGS: \$3,375.43

Jean Reynolds, 107 Tuttle Avenue, Clarendon Hills, IL 60514 is currently the MWF Secretary, Editor of Earth Science News, Earth Science Club of Northern Illinois, and writes many prize winning articles. She has recently found another job...she put out her first AFMS Newsletter in November as the new Editor. Good job, Jean, we're proud of you...

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Read your bulletin to spot *new materials* or *specials* of the above advertisers.

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)

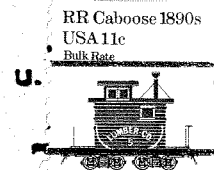
New membership must be approved by the Board, after applicant attends at least one (1) regular meeting of the club, and pay the above dues plus \$1.00 registration fee.



h.e.l.p.

HELP ELIMINATE LITTER PLEASE!

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