

THE PICK & SHOVEL



MARCH
1982

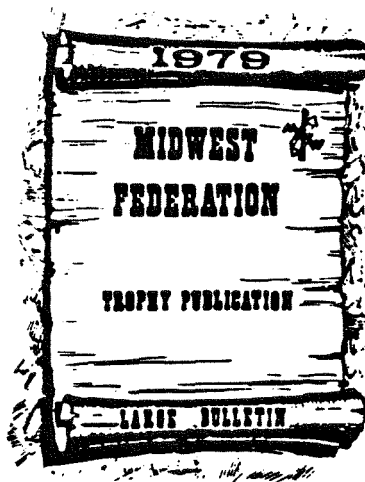
highlights

*in
this issue...*

"James Smithson's Bequest to
the United States"

"Story of Gold"

HOW OLD IS IT? -- Carbon-14
knows



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)
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

1982 ELECTED OFFICERS:

President.....Roger Pabian	315 'D' St.	Lincoln, 68502	474-2034
1st Vice Pres...Howard Taylor, Jr.	910 New Hampshire	Lincoln, 68508	476-3707
2nd Vice Pres...Glenn Lyman	420 N. 56th St.	Lincoln, 68504	464-6089
Secretary.....Nelda Oliver	5700 Otoe	Lincoln, 68506	489-5222
Treasurer.....Phyllis Parks	2435 S. 19th St.	Lincoln, 68502	476-6798
Board Member....John Abel	2829 Van Dorn	Lincoln, 68502	423-7654
Board Member....Florence Boring	2836 S. 40th St.	Lincoln, 68506	488-6243
Board Member....Irl Everett	2945 N. 65th St.	Lincoln, 68507	466-6204
Board Member....Virginia Green	6120 The Knolls	Lincoln, 68512	423-5032

Nominating Committee--3 years: Vera Lyman, Frank Rule
2 years: Marie Taylor, Jim Parks
1 year: Bob Walker, Irl Everett

LONG RANGE PLANNING AND BY LAWS COMMITTEE:

1 year - Nelda Oliver, John Harrison 3 years - Howard Taylor, Marie Taylor
2 years - Jim Parks, Phyllis Parks

STANDING COMMITTEE CHAIRPEOPLE:

Programs.....Howard Taylor	1982 Show.....Vera Lyman
Education.....Ray Lambert	Liaison/Calling.....Marie Taylor
Hospitality.....Bob & Mary Walker	Refreshments/Party...Marj Heedick
Historian.....John & Lillie Lewis	Scholarships.....Howard Taylor
Librarian.....Jim Parks	Outside Displays.....Frank Rule
Membership.....Mary Lambert	Housing/Property.....Bruce Simon
Field Trips/Safety..John Abel	Publications.....G & F Litzenberg
Sunshine Corner....Susan Taylor	Junior Activities....Mary Walker
NAOESCI Reporter...Vera Lyman	Auditing Comm. 1981..John Abel, Chairman Ray Lambert & Bruce Simon

PICK & SHOVEL STAFF:

Chairman: Glen Litzenberg

Editor.....Vera Lyman, 420 N. 56th St. Lincoln, NE 68504
Circulation...Glen & Flossie Litzenberg
Club News....Helena Baegl
Sunshine.....Susan Taylor

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.



GENERAL MEETING: There will be no General Meeting during the month of March because our Annual Show will be held on the 4th weekend this month.
Saturday & Sunday, March 27 & 28, 1982

MAKE THIS A VERY SPECIAL "MEETING"!
MEET YOUR FIENDS AT THE SHOW!

BOARD MEETING: Thursday, April 8, 1982 7:30 P.M.
Nelda Oliver Residence
5700 Otoe Street

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ANNUAL CLUB SHOW: Lincoln Gem & Mineral Club
March 27 & 28, 1982
Saturday, 27th, 9:00 A.M. to 9:00 P.M.
Sunday, 28th, 9:00 A.M. to 5:00 P.M.
Agricultural Hall, State Fairgrounds
Lincoln, NE



Food available at Show site
Camping; with or without electricity

COMING EVENTS: Nebraska Academy of Sciences
Earth Science Section
April 16, 8:00 A.M. to 4:00 P.M.
Olin Hall, Nebraska Wesleyan Campus

SHOWS: March 20-21
Cedar Rapids, Iowa
Cedar Valley Rocks & Mineral Society

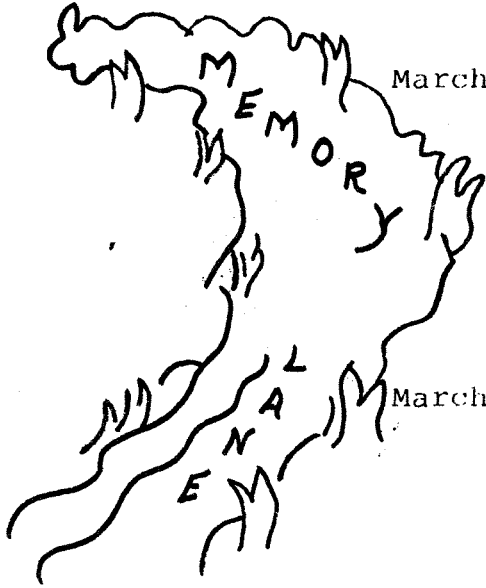
May 7-9 (STATE SHOW)
Hastings, NE
Central Nebraska Rock & Mineral Society

May 29-30
Hot Springs S.D.
Picture City Gem & Mineral Club

October 16-17
Grand Island, NE
Grand Island Earth Science Society, Inc.

REMEMBER THE THING TO DO IN '82 IS THE MWF GEM AND
MINERAL SHOW JUNE 24-27, 1982,
ST. PAUL, MINNESOTA

HISTORY - "Ten and Twenty Years Ago"



March 1972 . . Club members were entertained by a program featuring the MWF slide/lecture of the Lizzadro Museum.

Our club now has 140 Adult and 15 Junior members.

On March 19, 26 Club members and families took a Field Trip in search of Odell Diamonds, Calcite and Quartz crystals.

March 1962 . . The office of Historian was first created. Frances Tracy, Club Historian, was given the job of accumulating information from the earlier years of the club and building files for the future years.

Lloyd Tanner from the University showed slides about early Nebraska and Paleontology.

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GREETINGS FROM THE SUNSHINE CORNER

Take the wonderful of flowers
And the fun of "Come along!"
Add the nice surprise of rainbows
And the cheerful of a song . . .
Take the kindness of "How are you?"
And the friendly of "Hello!"
And mix with smiles and handshakes
from everyone you know,
Toss in laughter from together,
The remember in apart,
And you'll have the sunshine feeling
of happy in your heart.

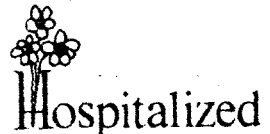


Barbara Kunz Loots



This month wedding congratulations are sent to Jim Taylor and Janet Kehling who will be united in marriage on March 20, 1982.

Wishes for a 'speedy recovery' and return home for the granddaughter of Don and Carolyn Rose.



Suze Sunshine

THE PRESIDENT'S MESSAGE

Important dates for the season are March 27 and 28, the dates of our 24th annual show. The committee has done a great deal of preparation under the good leadership of Vera Lyman. Regarding the show, we must keep in mind that it is a club effort and not just a brainchild of the directors or show committee. The most important thing is to have as close to 100 percent participation as possible. If one is not ready to exhibit, we can use help in setting up tables on Friday; we can use help in selling and taking tickets both Saturday and Sunday; we can use help at the silent auction table, we can use help in the working shop, we can use help to clean case fronts, we can use cakes for the Saturday evening social hour. The show is your show and it is your decision to ~~whether~~ it will be a hit or a turkey.

Many lapidarists do not treat the common tumbler as a worthy piece of equipment that can be utilized to carry out and complete some rather sophisticated lapidary projects. Frank Long, in his book "The Creative Lapidary" explodes this myth and demonstrates how one can utilize the tumbler for other than elementary projects.

Why does the tumbling work of one person look like little works of art and the work of another look like plain rocks. The person doing the tumbling may have decided to do some pre-forming and some free-forming on some of the stones before they were placed in the tumbler. This can make a world of difference in the final product. Some workers choose to finish off cabochons in the tumbler rather than spend hours at attaining a hand polish. This may sound like an anathema to the uniform rules committee, but the fact of the matter is that 99 percent of the stones we cut are not National Trophy calibre. The average stone will be enjoyed none the less by its wearer regardless if the polish was done on 50 thousand diamond or in the tumbler.

Some people engaged in tumbling have indicated that a high polish can be obtained by finishing the stones in a detergent solution. This is much cheaper than tin oxide, but the final product usually lacks the very high gloss of the oxide finish. I frequently finish off average stones just in detergent solution, but do the better pieces in tin oxide. After the final grind of 600 grit, it is best to rinse of the stones until the water runs clean. Before going to the final polish, it pays to tumble the stones for a day or two in detergent water. The seemingly clean stones will produce a black, inky water from the leftover grit. After the stones are good and clean, I add the water and tin oxide. I usually recycle the tin oxide from the cabochon cutting operation. Tin oxide used in the tumbler can be recycled by rinsing the stones in a sieve over a bucket of water.

The common tumbler can be a very worthwhile addition to a lapidary shop. It can speed up many operations and make some previously difficult operations easier. I recently completed a pendant of Red Butte jasper from Oregon in the tumbler. It has a square hole in it that I could not have polished by conventional means.

I do have access to some additional cases for the use of new club members who have not yet had the opportunity to obtain their cases. Please see me or call if you need a case. These are Wichita style cases.

I will be looking forward to seeing all of you and all of your exhibits at the show.

Roger Pabian
President



EDITORS' NOTES: The recent snowfall and bitter cold suddenly dimmed my hopes of an early spring as I'm sure it did for many of you. But then the sight of robins in the yard changed my sad thoughts just as quickly.

It's been an exciting year for me thus far; with the arrival of two greatnephews, and also two beautiful grandsons. It's a joy unexplainable for words, but a feeling many of you have experienced.

The Show is also a big project for me this year; as Chairman. Your help will be sincerely appreciated.

As Editor, I always look to all of you for articles and items of interest for our bulletin. Share your experiences, knowledge and questions with other Rockhounds through this media. It's yours to use.

Welcome - - NEW MEMBERS:

George Foral
3510 North 58th
Omaha, NE 68104

Mark Mercier
3316 R Street
Lincoln, NE 68503
476-6242

oops!

I was informed by the Treasurer that she had made an error on the following phone number. Please correct it in your Who's Who:

James Marburger
476-0214 (incorrect 475-0214)

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FOR SALE

Larry Bigley, member of Lincoln Gem & Mineral Club has the following equipment for sale:

- 24" Highland Park Saw
- 12" Bullwheel on Stand
- 1 - 8" Grinder
- 1 - 8" Belt Sander

Please call before 2:00 P.M. daily and weekends.

(402) 464-8887

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Most of this world's useful work is done by people who are pressed for time, are tired or don't feel well.

- Douglas Smithall Freeman

LINCOLN GEM & MINERAL CLUB, INC.
Board of Directors
February 4, 1982

The Board of Directors meeting was called to order by the President, Roger Pabian, on February 4, 1982 at 7:30 P.M. The meeting was held at the Nebco Building at 1815 Y Street. Eight board members and Vera Lyman were present.

Minutes of the January meeting were read and approved as read.

Treasurer's report by Phyllis Parks. A motion by Virginia Green to approve the Treasurer's report as read, seconded by Florence Boring. Motion carried.

Bills were read. Motion by Jim Taylor to approve the bills as read. Seconded by Virginia Green. Motion carried.

Roger will purchase the guest book for the General Meeting.

Motion by Virginia Green and seconded by Florence Boring for Phyllis to make a check for \$25.00 payable to the University of Nebraska for the "Editor Class" for Vera Lyman.

There was no new business.

The books will be ready for the auditing committee to audit next week.

Show committee coming along ok.

Ray Lambert has been working on rules for the educational skip program. Hopefully it will be ready for the March board meeting.

New Members:

George Foral. A motion by Jim Taylor that George Foral be accepted for membership after attending a general meeting. Seconded by Florence Boring. Motion carried.

Next Board Meeting to be the 4th of March and place will be announced in the Pick & Shovel.

Motion by John Abel to adjourn, seconded by Virginia Green.

Nelda Oliver, Secretary

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○HIGHLIGHTS○
○○○○○○○○○○

FROM HELENA!

Edith and Bill Holdorf had a wonderful 5-week trip into Mexico and to the Yucatan Peninsula off the southeast coast of Mexico. Came home by way of Brownsville on February 22nd.

Marie and Howard Taylor got back after a couple of months in Quartzsite, Arizona, and other places away down South. They brought Susan a very beautiful Lapis Lazuli necklace. Lucky gal!

Mrs. Olson (Ceresco) is still seeing halos around night lights, following cataract and implant surgery several weeks ago. We hope she will recover full vision soon.

Nine-year old Lori Lambert is becoming quite proficient in swimming, and entered her first competition at the YWCA recently. Good Luck, Lori - wonderful exercise.

Glenn and Vera Lyman have been blessed with 4 new additions to their family tree in the last two months. Two great-nephews and two grandsons. Daughter Linda and husband had a son Jan. 31st; and son Charles and wife had a son Feb. 28th. Congratulations!

* * * * *

The March issue of American History Illustrated has an excellent article entitled "James Smithson's Bequest to the United States."

Born the illegitimate son of the first Duke of Northumberland and Elizabeth, a niece of Charles, Duke of Somerset, Smithson never had a recognized place in England's nobility. He was able, however, to pursue a career in scientific research after graduating from Pembroke College, Oxford. Much of his life was spent on the Continent-Geneva, Rome, Florence, Berlin and Paris. During his travels he often explored the countryside, gathering samples of rocks, ores, and minerals. In his most important scientific study, he chemically analyzed a group of minerals called the calamines, using specimens that he had collected in England's Derbyshire and Somersetshire. Thus he identified zinc carbonate as a distinct mineral, which was later named Smithsonite in his honor.

Smithson never married, and his one brother had no children, hence his desire to establish an institution "for the increase and diffusion of knowledge" and his decision that it be founded in Washington, D.C. rather than in one of the nations where he had resided on the Continent. Because his personal papers were destroyed in a fire in 1865, a clear and definitive answer will probably never be known as to his choosing America as the institution. It may be that he became interested in America because Benjamin Franklin and other

"James Smithson's Bequest - -" - continued

American scientists were fellow members of the Royal Society of London. He never set foot on American soil, but he owned two books that described America, one being "Travels Through North America" by Isaac Weld, Secretary of the Royal Society, which contained a paragraph about the capital of Washington which then had only 5000 inhabitants. Smithson most likely viewed America as a land of democratic opportunity, in contrast to the European world of aristocratic privilege, whose benefits he had been denied. He spent the last three years of his life in Genoa, Italy, and died there on June 27, 1829. His will provided that his nephew, who had no children, inherit the income from his estate, so the stage was set for the final provision of the will, namely, the establishment of a "Smithsonian Institution" in America.

(Excerpt from the March 1982 American History Illustrated, article by George Painter.)

- submitted by Helena Baegl

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Hunting for Exotic Minerals in Southeast Nebraska

According to a copyrighted article by Howard Silber in the Jan. 3, 1982 Omaha World Herald, Molycorp, a Union Oil Company subsidiary, has been probing the earth in the Steinauer, Nebraska area for the past eight years in search of exotic minerals.

The exploration began after University of Nebraska geologists discovered rare earths at a depth of about 630 ft. while looking for the presence of iron ore.

The rare earths include ytterbium, lutetium, gadolinium, lanthanum, europium, and dysprosium. These valuable and sometimes scarce elements are used in computer components, the manufacture of steel and the light-weight but tough space-age metals.

The Conservation and Survey Division of the University of Nebraska-Lincoln, independent geologists and Molycorp all share the belief that this area contains extensive deposits of rare earth.

Only time and further exploration will determine if the quantities of rare earth available will make it feasible to establish a commercial mining operation in this area which is considered a "geological anomaly" by scientists as it occupies a portion of northwest-southeast low-gravity belt and a high-gravity belt which generally runs in a north-east-south-west direction. It also sits on a subterranean formation associated with the risk of earthquakes.

Differences in deep rock types probably account for the variations of gravity pull. These anomalies are attracting interest because of the possible availability of minerals according to UNL research geologist Raymond R. Burchett.

- via Rock Talk, Mar. '82
via The Loop Scoop, Feb. '82

HOW OLD IS IT? -- Carbon-14 knows

When rockhounds behold fossils, gemstones or just plain junkite, the question about age arises. Is it recent, ancient, antediluvian or pre-cambrian? Most of these terms are quite flexible or relative; their time span varies with the standard of reference.

A small boy returning after his first one-week visit away from home remarked, "Well Dad, I see you folks still have the same dog." A ninety year-old grandmother in a discussion with her young grandson, "That's what I said, it took place not long ago, only about thirty years." To the grandson, that length of time seemed like "ages"; to the grandmother, it was only "yesterday." "How old" may be very flexible.

The Cornhusker Hotel in Lincoln was about a half-century old, a mere youth compared with the centuries-old age of many other historic structures still standing; but on February 21, 1982, it "bit the dust," by expert implosion, to make room for a multi-million dollar convention center. Souvenir bricks from the debris now fetch one dollar.

Rockhounds need a rigid or definite time scale standard for dating their specimens and occurrences. Methods of determining age have been improved over the years, and now are becoming more accurate. Formerly much of these were based on pure guesswork, usually rather unscientific. Sophisticated equipment employed by expert persons brought about the improvement.

Dates or age were often determined by comparison with other related material, not always reliable for lack of standards. This was true for artifacts, fossils, minerals and archeological sites; almost like the proverbial "rubber tape line." Elastic!

Modern technology methods and devices have improved dating. Added to this is the increasing fund of human knowledge and experience. One method in use for about 40 years is known as Carbon-14, or radiocarbon dating. To fully understand it one should be versed in all of the sciences and mathematics. I have been out of direct contact with these fields since 1964, and the subjects have grown much since then. I have tried to keep up to some extent through different media, especially printed sources. I am pleased to learn that many of my former students have chosen scientific pursuits.

The essentials of Carbon-14 dating are not too difficult to understand. Our atmosphere is constantly bombarded by high-speed energetic cosmic rays from outer space. Those who have seen the vapor trails and collisions in a laboratory cloud chamber realize this ceaseless activity and penetration. It may be likened to the vapor trails produced under certain atmospheric conditions by high altitude aircraft. They are fascinating to observe.

HOW OLD IS IT? -- Carbon-14 knows - continued

The atmosphere contains nitrogen, oxygen, a few rare inert gases, carbon dioxide, water vapor, dust and pollution particles from nature and human activities. Some of the Nitrogen-14 in the upper atmosphere is changed by cosmic ray collisions to become Carbon-14 which is radioactive and somewhat unstable, but chemically like the usual Carbon-12. It can combine with oxygen to make carbon dioxide.

Carbon-14 slowly loses some atomic particles and changes back to Nitrogen-14. Some Carbon-14, combined with oxygen as carbon dioxide is taken in by photosynthesis to build green plant tissue, along with normal Carbon-12. In small amount this Carbon-14 becomes part of the bodies of plant-eating animals and human beings.

After a living thing dies and no more Carbon-14 is injected, that amount already in the body structure starts to "decay", like other radioactive matter, such as radium and uranium, to become other substances by transmutation at a mathematically fixed rate. Half of the Carbon-14 will change back to Nitrogen in about 5,700 years; this is called its half-life period. During the next similar period, half of the remainder will "decay", and so on. Half-life periods for various elements differ greatly in length, from a few seconds to thousands of years. Nature fixes the rate, and humans cannot alter it. For that reason harmful nuclear wastes from atomic power plants cause difficult disposal problems.

When scientists first discovered possible analysis of the period of decay of radioactive materials, the methods were quite laborious and limited, and they required large amounts of the specimens to be tested. Now the device TAMS (tandem accelerator mass spectrometer) is said to be able to analyze "milligrams in hours instead of grams in days." A great improvement in technique; this will make accurate dating possible of specimens thousands of years older than was formerly feasible.

Young people today have opportunities to learn about scientific procedures, and to participate in research unknown a generation ago. The fields are boundless! Some ancient Greeks had notions about atoms, but our late twentieth century provides the great practical applications.

With apologies to more knowledgeable readers; up-to-date scientific archeologists please be tolerant.

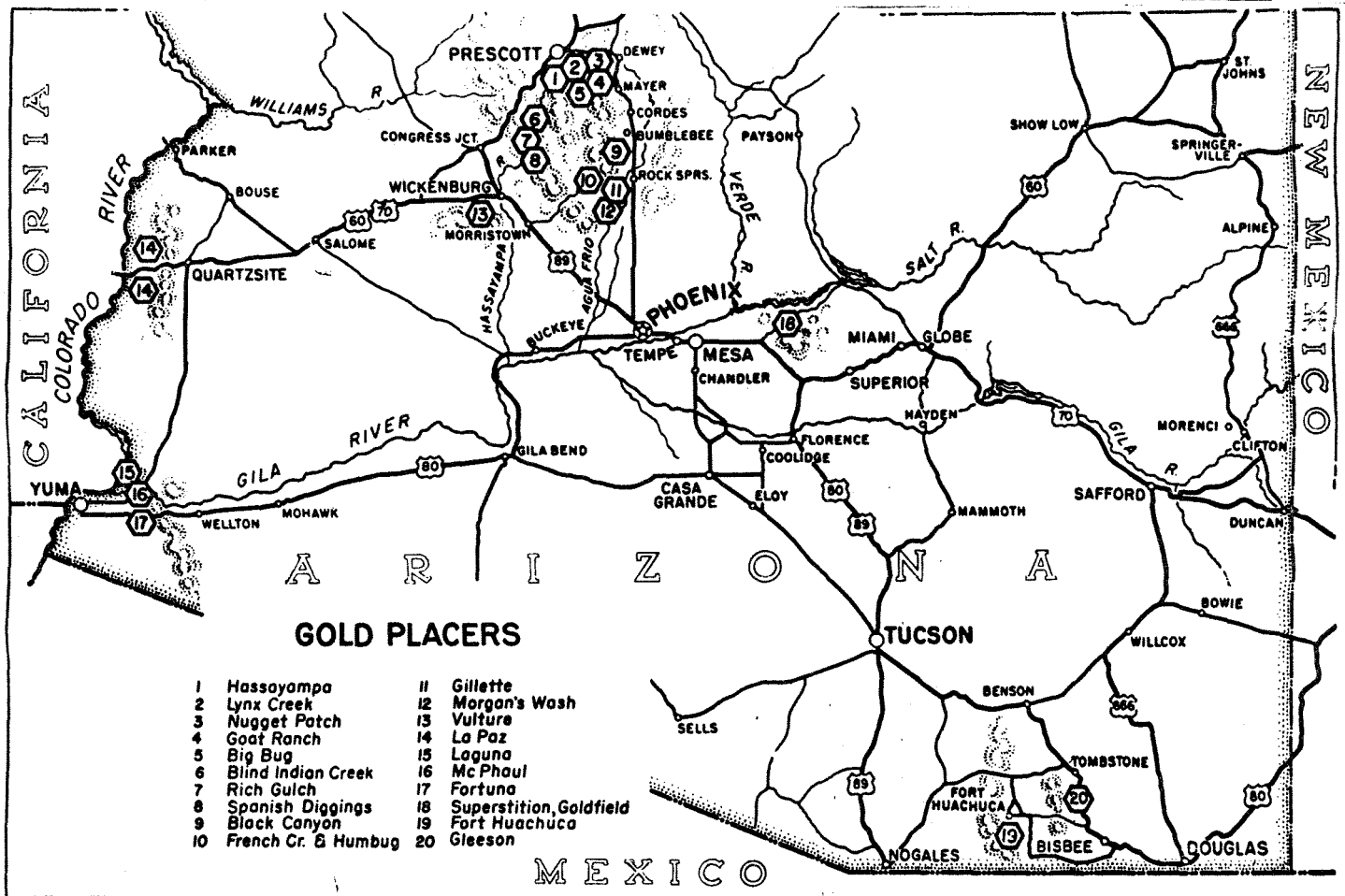
- submitted by J. D. Young

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When you talk, you only say something you already know, but when you listen you learn what someone else knows.

- Anonymous

The dictionary is the only place where success comes before work.



STORY OF GOLD

The lure of *Gold* brought the early settlers to Arizona. Towns sprang up around some of the diggings, like La Paz, Weaver Creek, Lynx Creek, Big Bug Creek, and a number of others. There seems to be little doubt that the old timers got most of the gold, but all of these old locations can still furnish a thrill to the rockhound who wants to pan for gold.

First, there is a thrill in seeking out the old locations and learning what one can of their history. Many of these old towns are hard to find, as vandals have destroyed almost every evidence of their existence. However, research and an inquisitive mind can turn up many an interesting story.

Any and all of these old placer locations will still yield gold in almost every pan if the rockhound will take the time to learn how to pan and where to look for gold. No, you will not find nuggets as big as your thumb, and only if you are unusually lucky will you find one the size of a grain of wheat.

The thrill is in panning out gold, even the tiny specks the old timers called "colors." This is what the modern gold hunter will find, and if you stay with it and work over some of the better gravels, there are still grain of wheat sized nuggets to be had. Sometimes even pea sized nuggets.

As recently as the late fifties, there were still pea sized nuggets to be had from Lynx Creek, near Prescott, as evidenced by the following incident:

We were scouting for a field trip for a rockhound club when

a housewife from Prescott drove up. She unloaded a shovel, a prospector's pick and a gold pan, and went to work. In her first pan she came up with several colors and a grain of wheat sized nugget. My wife commented on the size of the nugget, when the housewife replied: "That one is too small. I only need three or four more large nuggets to complete a necklace; that is what I am working for." By "large," we took it she meant something about one-fourth inch or a bit larger.

People often ask, "How can you tell gold from pyrites or chalcopyrite?" Gold has an unmistakable color which is the same in sunlight, or shade and at any angle. If you move the specimen around, in and out of direct sunlight, and if the color changes during this process, it is not gold. A simple positive test is the streak test. Pull a corner of your "gold" specimen over a streak plate. If the streak is black, it is NOT gold. If the streak shows fine gold specks when viewed with your hand lens, then there is no doubt. It's real gold.

The *Gold Placers* map shows approximately where the more important gold placers are located! There is still the thrill of finding gold waiting in these locations for those who want to work for it. Gold pans can be bought in most rock shops and in the larger hardware stores in the area. Get a gold pan, and a shovel, find an old timer or someone who can show you how to work a gold pan, head for the hills, and good luck!

— By FLOYD R. GETSINGER
Arizona Bureau of Mines

EXCERPT FROM AFMS NEWSLETTER:

A safety Manual can never be complete because of the advancements in medical knowledge and procedures. This has already been approved and an update was preinted in 1980 to modernize the AFMS Safety Manual to today's methods and practices.

The Safety Manual is designed to cover four main sections:

1. The principles governing field trip and camping safety.
2. The principles governing lapidary safety.
3. The principles of first aid, covering the topics of what to do if you meet up with poisonous friends in the field or in our everyday lives.
4. "Everybody Loves To Eat." (One of our worse faults and the precautions advisable to use when we are faced with circumstances we meet in our activities.

We cannot take too many precautions, nor can we be too careful, to prevent accidents from happening. The first, and the most important thing to remember is to keep calm and don't get excited when the inevitable does come along. Common sense is our best attribute and some knowledge is necessary to know what to do when we are faced with the trauma of actual unforeseen dilema that is associated with accidents.

We cannot all be doctors so it is my recommendation that every Federation Safety Chairman, every Club Safety Chairman, every Field Trip Leader, every Club President, every Club Library and it would be great if every member family in the AFMS would have a copy of the AFMS Safety Manual in your possession. Study it and keep it handy for ready reference when the occasion presents itself for the need of such information that it contains.

The AFMS Safety Manual is available from each Federation Supply Chairman. Why don't you order yours today?

During 1982, let's all be a little more thoughtful about our safety habits and make it so we carry the manual along as excess baggage. Wear clothing that offers protection when in the field, safety goggles when necessary. Stay close enough to follow the caravan and not so close that you obstruct traffic, listen to your field trip leader, make sure your equipment is in good order, carry fresh water, etc. and above all keep calm and respectful to your associates.

- via Feb. '82 Newsletter

* * * * *

A ROCKHOUND'S PRAYER

God grant that I may hunt rocks until my
dying day,
And when my final dig I've made and life
has slipped away,
I pray that God's great shovel will catch
me in it's sweep,
And in his mercy, God will judge ME a
specimen to keep.

- Via Feb. '82 AFMS Newsletter

THIS 'N THAT FROM LAST MONTH:

John Abel presented a very interesting program at the Feb. General Meeting. The 16 minute film previewed was entitled "The Antelope Run Story." It was a documentary of blowout, fire, control and cleanup at Chaparral Resources and American Quasar Petroleum No. 1 Patterson Well in Wyoming.

It was an interesting presentation of the process involved to obtain a barrel of oil or billions of barrels of oil and the enormous expense involved; especially if there is a blowout or fire, and the dangerous task of containing it.

This is a matter which concerns each of us because it is necessary to obtain this oil and convert it to gas for our cars and to heat homes, among many other things.

John did make a very interesting point of telling us that the very first gallon of gasoline cost \$1.00. After that the price went down to less than 10¢. A number of us can recall.

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Tami Bartall also presented a short program on Lincolnfest. She indicated that Lincolnfest stands for:

- Pride and Celebration
- People and Expectations
- People Celebrating Themselves

Lincolnfest means FUN.

Lincolnfest has now become an annual thing. This year it will be an All-city celebration held on October 1, 2, and 3.

She would let us know how to go about acquiring a booth if we wished to participate as a Club project.

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A report was given by Marie Wells on legislation LB632 Morrill Hall Renovation. President Roger Pabian appointed Marie Wells to be spokesperson for LG&MC.

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IT'S EVERYONE'S
AMERICA!
LET'S KEEP IT
BEAUTIFUL!

24th ANNUAL Show

Our Annual Show will again be reality on March 27 & 28, 1982 at the Agricultural Hall - Nebraska State Fairgrounds.

Twelve retail and two wholesale dealers will be present with items for sale. Nine working demonstrators will be demonstrating many forms of the lapidary arts.

There are a number of excellent slide/lecture programs scheduled for the two-day event. You do not have to be a "rockhound" to enjoy them. They will cover topics such as "Tornado Safety", "Limestone Mining In Nebraska" and "Gems of America".

Numerous displays will be on hand consisting of gems, minerals, jewelry, and fossils.

Food service is available in the show building and camping on the show grounds.

Publicity regarding the Show is scheduled as follows:

Channel 10-11; Morning Show (Time & date not set)

Radio KFOR: March 22 Four times during the day;
last time being at 6:30 P.M.

Radio KLIN: Bill's Place

March 18 at 5:25 A.M. - FM station

March 18 at 6:25 P.M. - AM station

March 26 at 5:25 A.M. - FM station

March 26 at 6:25 P.M. - AM station

Set-up day for the Show will be Friday, March 26, 1982, beginning at 8:00 A.M. For anyone who can be available on that date, your help will certainly be appreciated.

Many of you will also be called upon to bring a cake for the Saturday Night Social hour after the Show closes at 9:00 P.M.

Please offer your assistance to any of the Committee Chairpersons. It takes everyone's cooperation to make a Show a success.

Thank You; Show Chairman, Vera Lyman

* * * * *

Happiness is a peculiar sensation you get when you are too busy to be miserable.

* * * * *

Your 1982 Regional Show Schedule

Here are the dates and locations of the six regional Shows in 1982. Note the National Show and Convention will be held in Houston, Texas in conjunction with the South Central Federation July 8-11, 1982.

CALIFORNIA	EASTERN	MIDWEST	NORTHWEST	ROCKY MOUNTAIN	SOUTH CENTRAL
Long Beach, California Aug. 28-30	Pittsburgh, Pennsylvania June 18-20	St. Paul, Minnesota June 24-27	Pocatello, Idaho Aug. 20-22	Denver, Colorado Sept. 17-19	AFMS SHOW Houston, Texas July 8-11

New Light Shed on Sharks of Nebraska
By Jay Fussel, University of Nebraska

LINCOLN--A study area in southeastern Nebraska brimming with black shale is today contributing information to paleontologists and geologists in their effort to understand the early history of the Great Plains and the creatures that inhabited the area. Some shales contain the imprints of fossil sharks roughly 200 million years old.

The sharks of Nebraska?

That sounds like another put-on in the same category as the Great Navy of Nebraska. But no, says Roger K. Pabian, research geologist with the University of Nebraska Conservation and Survey Division, sharks in abundance once inhabited the ancient seas that covered the Great Plains from time to time. And Nebraska was more than once part of that vast marine environment.

Amateur collectors and paleontologists have long known that shark teeth have been found in Nebraska and in various other places in the United States as early as the 1850's. But researchers have wished for more complete evidence of total specimens. Unfortunately in this case, such evidence is not readily available because the shark has no bony skeletal structure. Its teeth are the primary hard parts of its body that can become fossilized, although some vertebrae have been found preserved. So roughly from the 1850's to the 1960's, experts used fossilized teeth to base most of their estimates on the size and species of fossil sharks.

Then new finds of shark imprints began to be reported in increasing numbers. Southeastern Nebraska became one important study area for such fossil remains. It was there that researchers discovered black shales laid down during the Late Pennsylvanian age. When such black shales were split carefully and with the correct technique, the researcher was rewarded at times with an imprint of the entire shark, including its cartilage and soft parts that had rarely been seen by scientists.

One of the current shark studies' accompaniments is a burgeoning appreciation of the wide variety of sharks that lived in Nebraska's ancient seas.

Pabian estimates that as many as 30 species of sharks are now known to have inhabited the waters of Nebraska during the Pennsylvanian age. These include one small specimen no longer than 9 inches and other specimens up to 5 feet long. Some of the larger sharks of this area could have weighed up to 50 pounds each. The largest tooth in the 5-foot specimen is one-half inch long, but loose teeth of the same species have been found up to 4-1/2 inches long, suggesting that some sharks could have reached a length approaching 40 feet.

Pabian said that paleontologists have long known that sharks flourished in the seas that often covered the land mass now called the Great Plains. But recent discoveries of the black shales in Nebraska, dating from the 1960's, has proved to be a collecting bonanza for museum curators and paleontologists. It may, according to Pabian, come to rival the more famous sites of Illinois and Indiana.

One nationally known expert on fossil sharks who is turning his attention increasingly to the study area of southeastern Nebraska is Dr. John Maisey of the American Museum of Natural History in New York City. Locally, Ted White of Omaha has led the Nebraska collecting effort in the southeastern part of the state. Many of the finds made by White, an amateur but extremely knowledgeable collector, have ended up in the University of Nebraska State Museum.

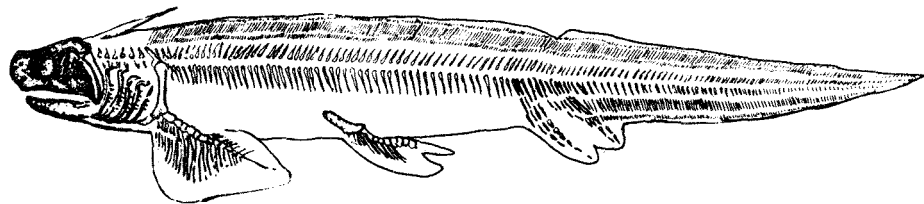
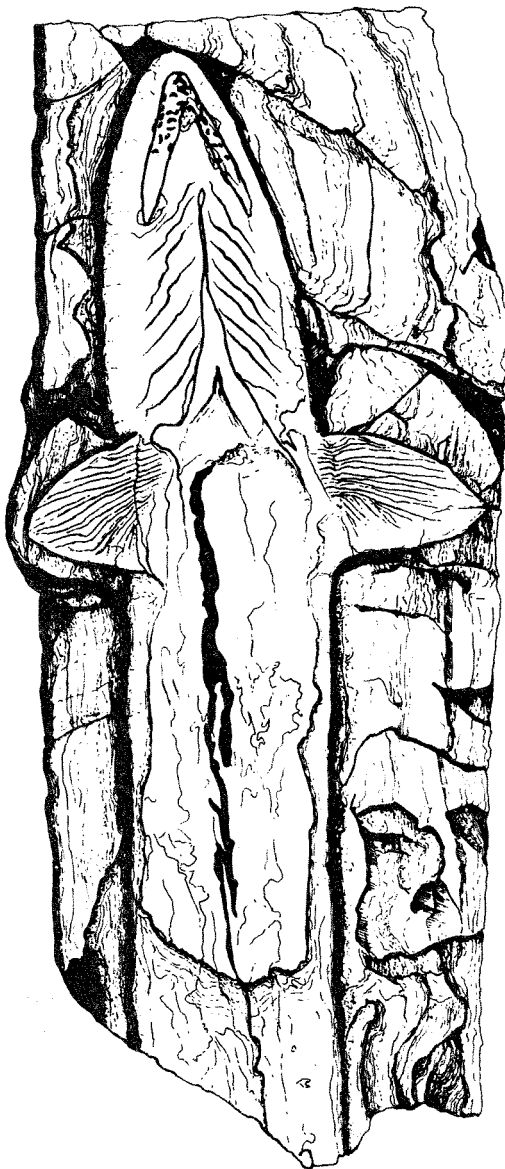
Michael R. Voorhies, curator of vertebrate paleontology for the University of Nebraska State Museum, says that the museum now has many excellent imprints of shark specimens in black shale samples from southeastern Nebraska. He credits Ted White with finding and contributing many of the imprints to the museum and with developing a technique for splitting the black shale successfully so that the imprints are carefully preserved and not broken into small fragments.

"There's a revolution going on in shark studies today," says Voorhies.

He points to new research techniques which involve taking X-rays of slabs of black shale as having produced results that even the most careful manual techniques could not match. The spurt forward in research techniques has generally coincided with the great upsurge in popular interest in sharks, which dates roughly from the release of the movie "Jaws."

Voorhies said that he hopes to install the black shale imprints in the paleobiology gallery of the museum within about a year. Then, Nebraskans and other visitors to the museum can see firsthand some of the marvels of this region when it existed as a marine environment some 280 to 290 million years ago.

Left: Campodus variabilis, a fossil shark from Nebraska. The section seen here measures about 3 feet long, and the entire fish was about 5 feet long. --rkp Illustrated by Frankie Gould.



Above: Xenacanthus sp., a fresh-water shark. Its remains have been found in the Permian strata in Nemaha and Richardson counties, Nebraska. --rkp

Figure after Moy-Thomas and Miles, 1971

HELP!

HELP!

HELP!

A nearly 4-inch long, essentially perfect specimen of the Devonian trilobite, Phacops rana from the Silica Shale of the famous Sylvania, Ohio, locality was very recently stolen from the paleobiology gallery of the University of Nebraska State Museum. Anyone having information as to the whereabouts of this specime is requested to contact Officer McConnell, University of Nebraska-Lincoln, Campus Security, (402) 472-3555. Please refer to case number 82-0462.

HELP!

HELP!

HELP!

Midwest Federations NEWSLETTER

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MARCH 1982 - Issue No. 222

ALL AMERICAN AND MIDWEST CLUB AWARDS

Each club has received information from the Midwest Awards Committee for the 1982 year. If your club did not receive their directions please write to DR. BENJAMIN MOULTON, Chairperson, Department of Geography and Geology, Indiana State University, Terre Haute, Indiana 47809.

We hope each club will complete the slip indicating the intention of filing an application for the award.

Clubs should be meticulous in recording their activities as well as their members who as individuals teach, lecture, serve on committees, help in museums and many other sundry activities. Remember Rock Club members help in all kinds of organizations at all age levels. What is your club doing for senior citizens? That is a good hypothetical question.

Remember that the applications are reviewed by a committee of five representing three states. A very careful scoring sheet has been prepared to provide some objectivity to the evaluation but careful evaluation also means that you as preparers must put your best activities in a clear and concise form. We hope you will try your best.

Remember all applications must be in by March 31st. If your application is heavy, you might consider sending it by U.P.S., or U.S. Priority Mail instead of regular parcel post. Consult your local agents.

BENJAMIN MOULTON, Chairman MWF Merit Awards

map, you can see that includes a large share of the federation clubs. So form a committee and plan to take a bus to St. Paul in June.

MWF Environment Committee, JOHN BOLAND



COMMEMORATIVE STAMPS

MRS. LILLIAN TURNER, Chairman of the stamp committee for AFMS has asked that all members of the Midwest Federation write a short simple stated letter to the Postmaster

in Washington, D.C., to help the issuance of a block of four topical stamps honoring the four great gems in the National Smithsonian Collection, which includes the Hope Diamond. We hope this block will be issued in time for the AFMS National Show in San Diego, California in 1984.

Please write your letter to: Postmaster, 475 L'Enfant Plaza, So. West., Washington, D.C. 20260 (Please include the zip code #)

Simply ask that we request the honor of having the four gems issued as Topical stamps in 1984. MRS. LILLIAN TURNER, 6627 Radnor Road, Bethesda MD 20817

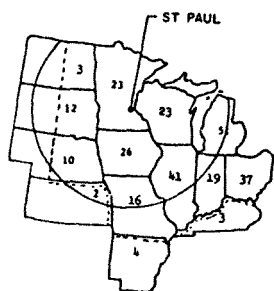
Submitted by DORIS KEMP

WELCOME NEW MEMBERS.....

THE D.L. ROCK HOUNDS - Detroit Lakes, MN
This new club has 36 members and they meet in the Agriculture Extension Bldg., Industrial Park at 7:00 p.m.
President is NASH PERRINE, Box 28, Rochert, MN 56578.

MANCHESTER EARTH SCIENCE JR. CLUB - Akron, OH
This club meets at 5061 Peggy Ann Dr., and has 9 members.
President is DONALD OBERMEIR, 5537 Pepperidge Rd., Clinton, OH 44216

MARY EDWARDS, MWF Membership Chairman



It's MWF Convention and Show planning time again. Has your club considered taking a bus to St. Paul? CONSERVE gasoline and plan a fun bus trip. Some clubs check the MWF Directory and arrange a field trip enroute to and from the show.

If your club needs extra passengers, invite the nearby clubs to participate. Most bus drivers are permitted to drive up to 550 miles in one day and from the next column....

1982 HONORARY AWARD WINNER

DR. KATHERINE G. NELSON has been selected by the MWF to be the educator to be designated by the American Federation AFMS Scholarship Foundation as its 1982 Honorary Award Winner.

She was nominated for this award by the members of the Wisconsin Geological Society.

The Honorary Award Winner has the duty to select two students to receive the award monies.

DR. NELSON is a Professor, Department of Geological Sciences, University of Wisconsin, Milwaukee and Chairman of that Department. Some of her past and present activities include:
°Curator of Greene Memorial Museum, Milwaukee Campus °Professional petroleum geologist
°Served as interim secretary of MWF in 1942 °Served as MWF Paleontology Chairman °Cur-
rently MWF Environment Chairman °Member of Wisconsin Geological Society (honorary member
now) -- served on many committees as well as President, and leader of the Junior members
°Teaches geology hobby classes at YWCA and Milwaukee Recreation Department °In 1978 she
was presented the Neil Miner award of the National Association of Geology Teachers.

Submitted by DIANE DARE, 1st Vice-President MWF

CHILD PROTECTION (excerpts from Michigan Office of Highway Safety Planning and Michigan Auto News-AAA) Submitted by HELEN R. NEWMANN, Chairman MWF Safety & Field Trip

In normal, every day wear-and-tear, children hold up very nicely, but in a car that stops or swerves suddenly or crashes, they don't do well at all. In fact, the automobile accident is the leading killer of young children. Injuries from auto accidents also are a major cause of epilepsy and paraplegia. Why? Because only an estimated 2% of young children are protected from injury in automobiles by the proper use of safely-constructed child restraints or seat belts.

What can happen if infants or young children are not buckled up? In a crash, a swerve, or sudden stop, they can be thrown into the windshield, the dashboard, some other part of the car, or into another passenger. They can easily be thrown out of the car.

Can't I protect my baby by holding it tightly in my arms? Your arms usually are a very safe place for your infant, but NOT WHEN RIDING IN A CAR. Even a tiny 10 pound infant will be thrown forward with a force of 300 pounds in a 30 mph impact. That's like falling from a three-story building.

What does a restraint do? It holds the child in the car and safely spreads the forces of the crash over a wide body area. Safely-constructed and properly-anchored restraints have been shown to reduce the probability of a fatal injury in automobile crashes over 95%.

Which restraint is best? For Infants: Beginning with that first ride home from the hospital, all infants should ride in a semi-reclined, backward-facing restraint. It must be anchored to the vehicle seat by a lap belt. "Car beds" and household infant carriers are NOT designed to protect an infant in a car. For Toddlers and Pre-Schoolers: They should ride in the infant position as long as they will tolerate it, but when they are big enough to sit up without help, they safely can be moved to a forward-facing seat or harness. Make sure the one you purchase is liked by your child and that you can anchor it exactly as the manufacturer recommends. No restraint will protect your child unless both of you are willing to use it properly and every time you travel.

In July, 1981, Michigan joined a small but increasing list of States to approve a law requiring child safety restraints. The Auto Club, along with many other organizations, supported the legislation which designed to curb accident-related deaths - the No. 1 killer of children under four years old!

The bill, sponsored by Senator GEORGE Z. HART, of Dearborn, Michigan, takes effect on April 1, 1982, and will require the use of an approved child restraint device for infants less than one year old.

A child between the ages of one and four must either be in a restraint in the front or back seats or be secured by a standard safety belt in the back seat.

All Midwest Federation members of other states...it behooves you to agitate until your state too, has a similar law to protect the children.

Do you like fossils? MAPS is having their National Fossil Exposition IV 1982 at the Student Union, in the Grand Ballroom, on the campus of Western Illinois University, Macomb, Illinois, Friday, Saturday and Sunday, April 2 through 4.

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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.

DON'T FORGET _ _ _ _

Our 24th Annual Show is coming up very soon!

SHOW DATES: Saturday, March 27, 9:00 A.M. - 9:00 P.M.
Sunday, March 28, 9:00 A.M. - 5:00 P.M.

Set-up day, Friday, March 26, beginning at
10:00 A.M. We can always use lots of help.
WE'RE COUNTING ON YOU!

PLAN YOUR EXHIBIT - Share it with fellow Rockhounds!
It'll be a 'fun and exciting weekend'.

SEE YOU AT THE SHOW!

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Lincoln, Nebraska 68505-0342



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