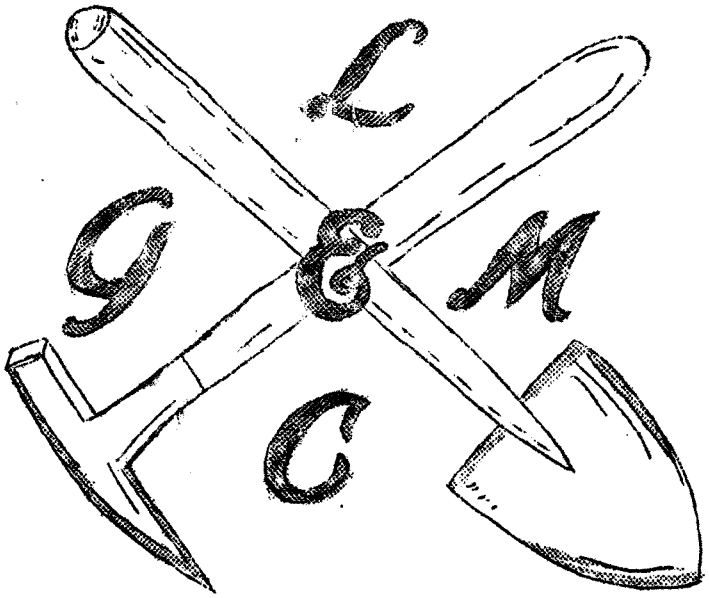
APRIL 1963

THE PICK & SHOVEL



MONTHLY BULLETIN OF THE

LINCOLN GEM AND MINERAL CLUB, INC.

LINCOLN, NEBRASKA

LINCOLN GEM AND MINERAL CLUB, INC.

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4130 Witherbee Blvd.

* * *

MEETINGS - FOURTH SATURDAY - SEPTEMBER THROUGH MAY
Roberts Dairy Party Room - 211 So. 20th St.

* * *

Affiliated with:

Midwest Federation of Mineralogical and Geological Societies

American Federation of Mineralogical Societies

* * *

BULLETIN EDITOR - Mrs. Velma Bloyd
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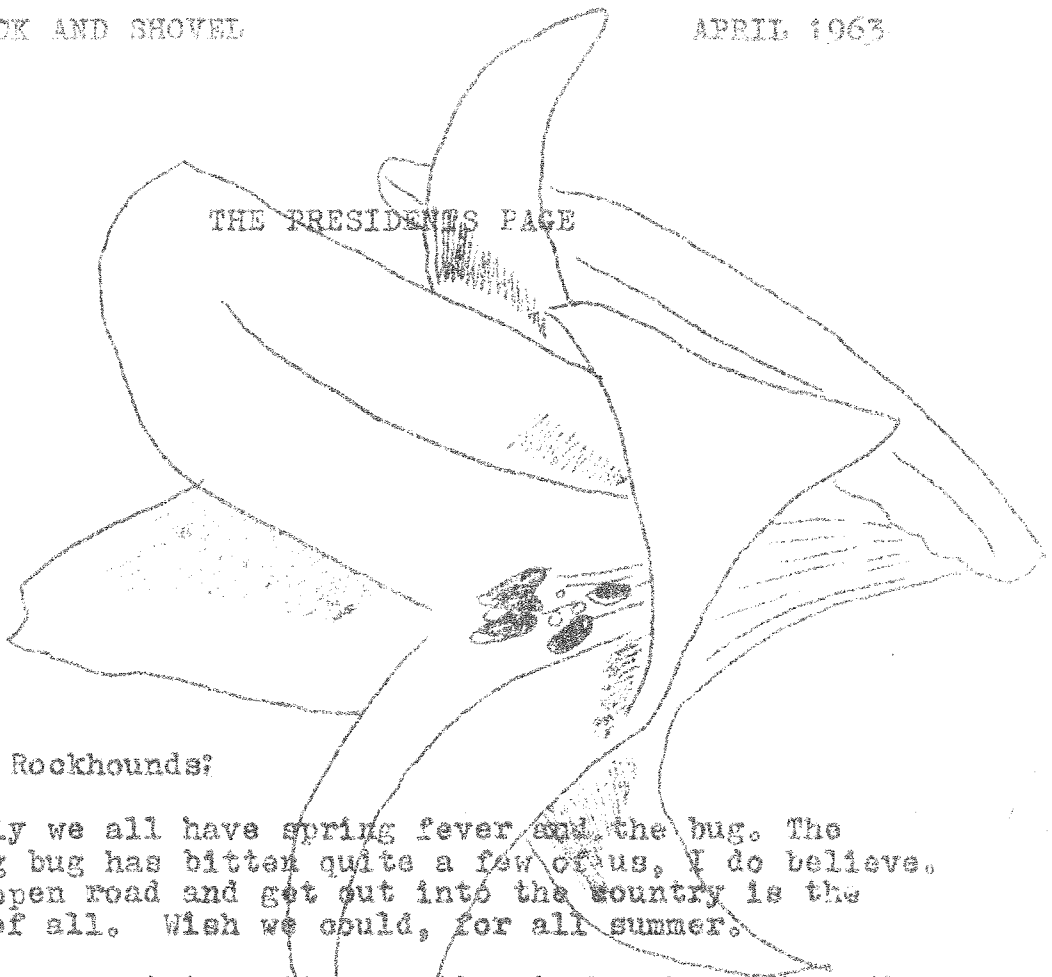


THE PRESIDENT'S PAGE

Dear Fellow Rockhounds;

Suddenly we all have spring fever and the bug. The rock hunting bug has bitten quite a few of us, I do believe. To hit the open road and get out into the country is the big desire of all. Wish we could, for all summer.

We had a very interesting meeting in March, with a fine attendance. Mr. Waddle, Mr. Taylor and Mr. Carveth gave a fine and interesting report on their trip into old Mexico. They showed us some of their treasures and also presented the club with several fine specimens they brought from San Luis Potosi. We are looking forward also, to seeing their pictures and slides, which they will show at a later date. We appreciate this and thank them very much.

Earth Science Magazine mentions two of our members in this issue, Mr. Bloyd and Mr. Hornung. Please read and support our Midwest Federation publication. A poem on page 5 and 6 was especially interesting to my husband and myself, and I am willing to wager quite a few fellow rockhounds feel the same as we do.

We have a fine program planned for April. A "Stump the Panel " show, A rock-quiz. Bring your questions and any specimens you want identified. Lets stump the experts, this should be a good old fashioned fun program.

Until the meeting,

Marie J. Carveth

SATURDAY - APRIL 27, 1963

Regular meeting - 7:30 p.m.

Program - A "Stump the Panel" show. This is a rock quiz. Bring your questions and any specimens you want identified.

Roberts Dairy Party Room
211 South 20th Street

* * *

REFRESHMENT COMMITTEE

Mr. and Mrs. Norman Englehart
Mr. and Mrs. Maurice Tracy
Mr. Frank Rule

FIELD TRIP #1

Fullerton, Nebraska -- May 5th, 1963 - Gravel pit
Pit open 8 a.m. to 4:30p.m. Meet at the pit. You will need to bring your drinking water. A pail to wash your rocks in.
There is a park (Morman Trail Park) at the junction 30A-U.S. 30 that has nice bathrooms, camping for at least two nights is permitted. Turnoff to pit is 100 feet this side of the Loup River. Nance Co. Sportsman club and the Kemp Country Club is on this corner.

* * *

COMING SHOWS

April 19 - 21	Central Nebraska Gem and Mineral Soc. Hastings, Nebr. --National Guard Armory, 2015 West 3rd St. --(9 a.m. to 9 p.m.)
April 20 - 21	Southwest Kansas Mineral Soc. - Liberal, Kansas
April 24	Lincoln Air Base Hobby Show - Lincoln Air Force Base, Lincoln Nebr.(7p.m. to 10 p.m.)
April 27 - 28	Wichita Gem and Mineral Soc. - 820 S.Osage Wichita High School West, Wichita, Kansas

FULLERTON ?

As I sit here with the help of Smith-Corona, perhaps I can spin the story, or better known, the misadventure, the planning of our first 1963 field trip.

For one thing, the alarms rang too, tooearly, after running late, to give our families much time. We had the breakfast fixed before the guys could get dressed, and had the food in baskets ready to go.

It was a beautiful day for rockhounds, the sun was out and we couldn't wait to get there just as we couldn't help but notice all the earth coming out in it's spring glory. The geese and ducks were heading north in big flocks all day over our heads and you could hear them honking and quacking, big V's in a bright blue sky.

We stopped at a park just before we reached Fullerton which was part of the Old Mormon Trail, a lovely place to camp or picnic, with a little lake, clean, neat powder facilities, tables, stoves and busy traffic whizzing by where highways 30 and 30-A join.

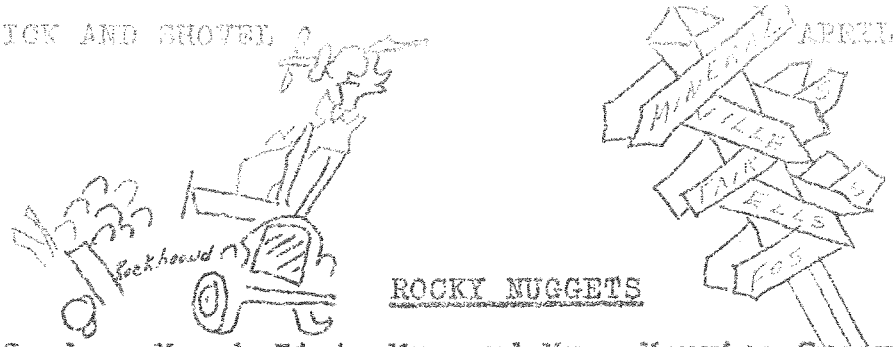
On to the business of the day, planning for water to clean the rocks, parking spots, safty, and general information before we settled down to enjoy the day. Chris found a big piece of wood that was lovely and he plans on showing it. It is agatized but at one time it must have been in a forest fire. We all found very nice cutting material, but will let each one do his own bragging to encourage your interested attendance at the field trip.

We found this to be a very nice place for children, far enough from the water and machinery, and lots of wide open country for yelling without disturbing the sensitive ears.

We left all those huge piles of uncovered rocks and returned to the wayside park for our supper, sunburned, dirty and weary yet hating to head for home.

We'll always be glad that we took two cars, as one decided to act up and had to be abandoned at a farmhouse. That's when we discovered that "A Hillman Husky" is just that, because it got all eight tired rockhounds , the 70 miles back to Lincoln---feeling like sardines but safe at home and ready for the next trip.

Dorothy Englehart
Phyllis Parks
Velma Bloyd



ROCKY NUGGETS

Sunday, March 31st, Mr. and Mrs. Maurice Tracy went rock hunting east of Wymore, Nebraska. They found thin shelled geodes filled with barite crystals and also brought home geodes with calcite and quartz. The one I thought were lovely, looked like they had decorated the inside of the geode with white frosting roses.

Lloyd Lederer said he was spending the Easter vacation in the western part of the state and he had several new places he was going to hunt. Be looking for the next meeting, for he always finds the real nice fairburns. Recently he visited a rockhound in Norfolk, Nebr. and found out their club is hunting wood at Virdagree, Nebraska.

Jim Kramer was tearing out a limestone foundation in Bennett, Nebraska and found that the limestone was fossilized. Some pieces had dendritic patterns.

One of our new members, William Sievers, went to South Bend, Nebraska, April 7th and brought home rice agate.

Our first field trip for the year is at Fullerton, Nebr. gravel pits. There will be no picnic on this trip so be sure to pack your lunches and carry plenty of drinking water. The pits will be open at 8 a.m. Sunday to 4:30 p.m. There has been agate, petrified wood, opalized wood and gypson crystals in clay balls found there. A mammoth tooth and buffalo teeth have also been found.

There is a few people who do not own cars that would like to go on this field trip. Anyone who will be interested in taking along a passenger on this trip please contact Velma Bloyd, Chairman for the trip.

If you have any rock news, call me or I will be calling you.

Dorothy Engelhart

EVERETT LAPIDARY SHOP
2941 North 65th Street Lincoln 5, Nebraska

Telephone IN6-6204

See us for

FINDINGS

ROUGH SLABS

FLUORESCENTS

MACHINERY

Our 8th year as Capitol Citys First Rock Shop

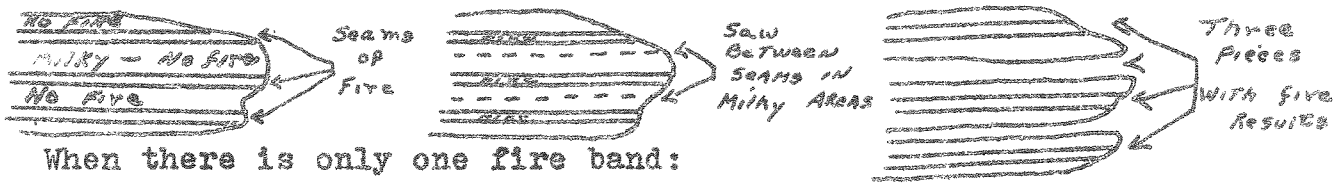
SATISFIED CUSTOMERS ARE OUR BEST ADVERTISEMENT

Our latest offerings are OUR very own shoulder patches of the LINCOLN GEM AND MINERAL CLUB

Cutting Opal

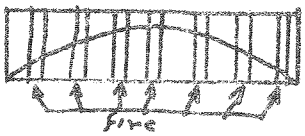
ORIENTING FOR CUTTING:

From the following piece three slabs can be cut:



When there is only one fire band:

When there are tight bands of fire, sometimes it is advisable to cut across the grain of fire in order to get a larger and better stone:

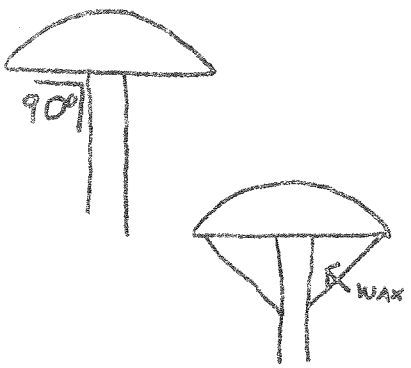


GRINDING:

Grind on #220 grit wheel. Radius the top until fire starts to show.

Cut slight chamfer on bottom of stone. This helps prevent fractures when mounting in the seat and chipping the edge when finishing the stone.

DOPPING THE STONE:



The stone should be centered and at a 90 degree angle with dowel. I like to glue my stones on with Duco Household Cement, the kind that is used in model building. Glue should set about three hours.

Be sure you glue out to the edges of the stone. It helps support it and also displaces heat.

Another method of dopping opal is to heat dop wax on the end of your stick, then touch to the back of the stone. DO NOT HEAT THE STONE. Then shape the wax to the edge of the stone.

GRINDING AND POLISHING:

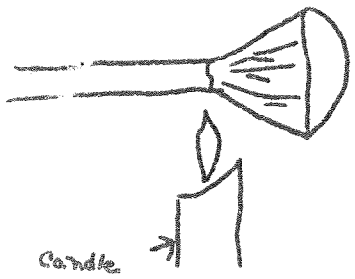
Grind on #220 rubber bond wheel or lap with #220 grit on a wood wheel.

CUTTING OPALS (continued)

Ceramic clay is used in with the grit so it isn't slung off of the wheel. When the grinding marks are all removed, I wash my stone, then hand sand with #280 grit wet sand paper, then wash and sand with #400 grit paper. When the stone has a nice texture, good fire when wet, and no defects, wash again so as not to carry grit to the polishing wheel. Polish with light pressure with Cerium Oxide and water on leather the same as any other stone.

Heat, or a rough, out of round wheel will fracture a stone as sure as hitting it with a hammer, so use a true wheel, plenty of water, and not too much pressure.

REMOVING STONE FROM DOP STICK:



To remove the stone from the dop stick, heat wax back from the stone. Scrape off wax from the stone with a knife, then clean with alcohol.

When Duco glue is to be removed, place dopped stone in water over night. It will twist off very easily then.

DO NOT use the refrigerator method in removing opals from the dop stick as they have a tendency to fracture.

* * *

This article was taken from one of the exchange bulletins, THE ROCKPILE, March 1963. The author was Leo Nieman.

Used Motors

Lapidary Equipment and Supplies

Choice Slabs

Cabochons

Rough Cutting Material

CLYDE BENHAM

1711 Harwood GA 3-4163

SIMMONS RENTAL & LAPIDARY SERVICE

Mountings

This months feature

POLISHED CABOCHONS

Black lights with batteries

Silversmithing findings

Mineral specimens

Lapidary Aprons

Slab and Rough Material

Equipment

HIPPITY HOPPITY
UP HILL AND DOWN
OVER THE HILLTOP
TO SIMMONS TOWN
WHERE SHY LITTLE BUNNIES
ARE WORKING AWAY
POLISHING ROCKS
FOR A BRIGHT EASTER DAY.

HERE IS ONE THAT IS BLUE
AS THE SKY OVERHEAD
AND ONE GAILY SPLASHED
WITH A BRIGHT POPPY RED,
HERE IS ONE SUNNY YELLOW
AND ONE MEADOW GREEN,
AND ONE LIKE A SEA SHELL
THE PINKEST I'VE SEEN.

PERHAPS EASTER MORNING
YOU'LL OPEN YOUR EYES
TO FIND ON YOUR DOORSTEP
A HAPPY SURPRISE,
OF CABOCHONS, GAILY POLISH
RED, YELLOW AND BROWN,
BY SHY LITTLE BUNNIES
FROM SIMMONS TOWN.

Q U A R T Z

Quartz, a widely distributed mineral , consisting of Silicon dioxide, or Silica (SiO_2). It is one of the most common minerals and is found in many varieties. Some os the various forms of quartz have attracted attention from the earliest times.

Quartz is a hardness standard, being 7 on the Mohs' scale and it cannot be scratched with a knife. The specific gravity is 2.65. A conchoidal fracture is characteristic of most varieties. It is infuseable in the ordinary blowpipe flame but will fuse in the oxhydrogen flame to a clear colorless glass.

Quartz has many interesting variations. Among the many varieties are Amethyst, rose, milky and smoky quartz, which have the characteristic colorations. In addition to the pink color, properly cut rose quartz may show a star shaped figure (asterism). Citrine is a yellow variety. Some types of quartz contain inclusions of other minerals such as rutilated quartz, which has the long needles of rutile. Moss agate has inclusions of manganese oxide or chlorite. Tigereye is a replacement of asbestos by quartz, but retains the fiberous structure. It has a beautiful (cats-eye) lustre when properly cut and polished.

Chalcedony is a compact crystalline form of quartz of white or cream color, semi-transparent and waxy in appearence. If various colors arrange in more or less concentric bands, its called agate, but if the bands lie straight and parallel, being formed by successive deposition of very thin layers, it is known then as onyx. The color being a red to red orange, it becomes Carnelian. The semi-precious stone called chrysophase is nothing more than pale green chalcedony, when it is darker green it becomes plasma, and if the green chalcedony is mottled with red dots, it is called heliotrope.

Jasper is another prized form of chalcedony. It is impure and its color, red, brown or yellow is due to the presence of iron oxide.

One of the most popular materials for the collector or lapidarist is petrified wood. Dealing with wood whose color, odor, texture, hardness and grain have changed during the process of fossilization, making it somewhat difficult to identify. Petrification is the process by which things are changed to stone. They are covered with mud and sand for ages, underground water seeps into each cell, filling it with minerals thus replacing the decaying matter until the whole object has turned to stone, leaving the form in the orginal structure.

Silica bearing minerals, deposited by low temperature waters, fill seams at the last stage of the cooling of the rocks, forming your opal woods.

Petrified wood is about 98 per cent mineral, mostly quartz and weighs 166 pounds per cubic foot.

PICK AND SHOVEL
bulletin staff

QUARTZ
(continued)

PYRAMIDS AND CRYSTALS

Although at first sight quartz crystals may appear to differ greatly in form, some being long and slender, others short and stout, some standing out like spikes from the surrounding rock and others free and loose, yet if we examine and compare them we will find that all quartz crystals are identical in their characteristics.

Invariably they are six-sided prisms ending in six-sided pyramids. The sides may be unequal in width; some wide and some so narrow that they are scarely noticeable; the six facets of the pyramidal point may be even more unequal in width; one or both ends may terminate in a pyramid and the two pyramids may even be directly joined with no appreciable prisms between them.

There are quartz crystals so distorted that they appear almost rhomboidal or rectangular or even like cubes, while two or more crystals may be joined or "twinned,"yet the number of facets and their relative angles never vary.

Regardless of the proportions of the crystals and the inequality of their faces, the angle between them is always exactly 120 degrees, while the angle between a prism and a facet of the pyramidal end is always 141 degrees, 47 minutes, with the angle of slope very nearly 52 degrees which is almost exactly that of the pyramids of Egypt. Finally, if we measure the angles between the pyramidal faces we will find them all 94 degrees, 14 minutes which is so near a right angle that if three of the facets happen to be much broader than the other three the crystal may appear as a cube instead of a hexagon.

At times you may discover quartz crystals which appear to have more than six facets at the tips, but if you examine these carefully you will discover that the apparent extra face is the result of one of the sharp angles being sliced off, as it were.

When these are on the right side of a prism's face (the pyramidal end of the crystal being uppermost) the specimen is known as a right-handed crystal, while if on the other side of the face, it is a left-handed crystal.

Although a right-handed and a left handed crystal may be precisely alike in size, width of faces and every other respect, yet it is absolutely impossible to bring the two into coincident position. It is like looking into a mirror and trying to make your right hand coincide with the right hand of your image.

Another distinguishing characteristic of this distinguished crystal, is the fact that they always have lines or grooves running horizonally across the surface of the prism faces. In some specimens these scratch-like striations are very fine and faint, while in others they are deep and conspicuous, but they are always present. Even if you have only a fragment of a crystal, you may be certain it is quartz if there is a trace of an angle and the little lines are at right angles to it.

Reprinted from "The Rock Review"
Salem, Ohio

YOUR LIBRARIAN

The most bashful of us would hurry up to a total stranger and start a conversation if we thought he was another rockhound. We would find out all about where he was from, whether he would trade materials and fill his car with our local material. We would ask him to stop back again.

In the past and now, you are passing your fellow hobbyist up. The club exchange bulletins. They are printed for us to read and so few of us are taking the advantage of this.

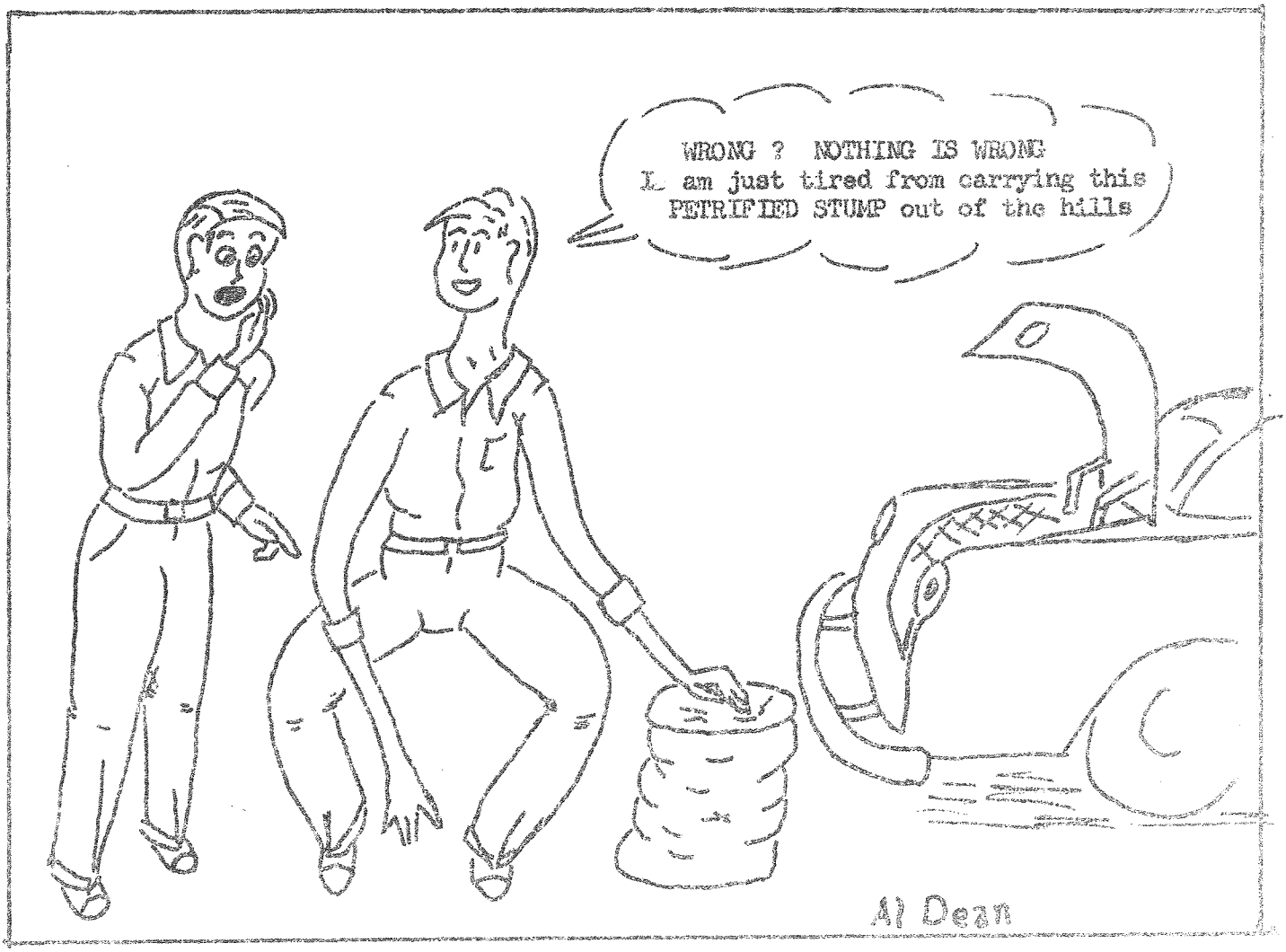
Each month, we recieve from hard working editors and club members, wonderful information, that no club has the space in their bulletins to print but it is all here to be shared by everyone of us.

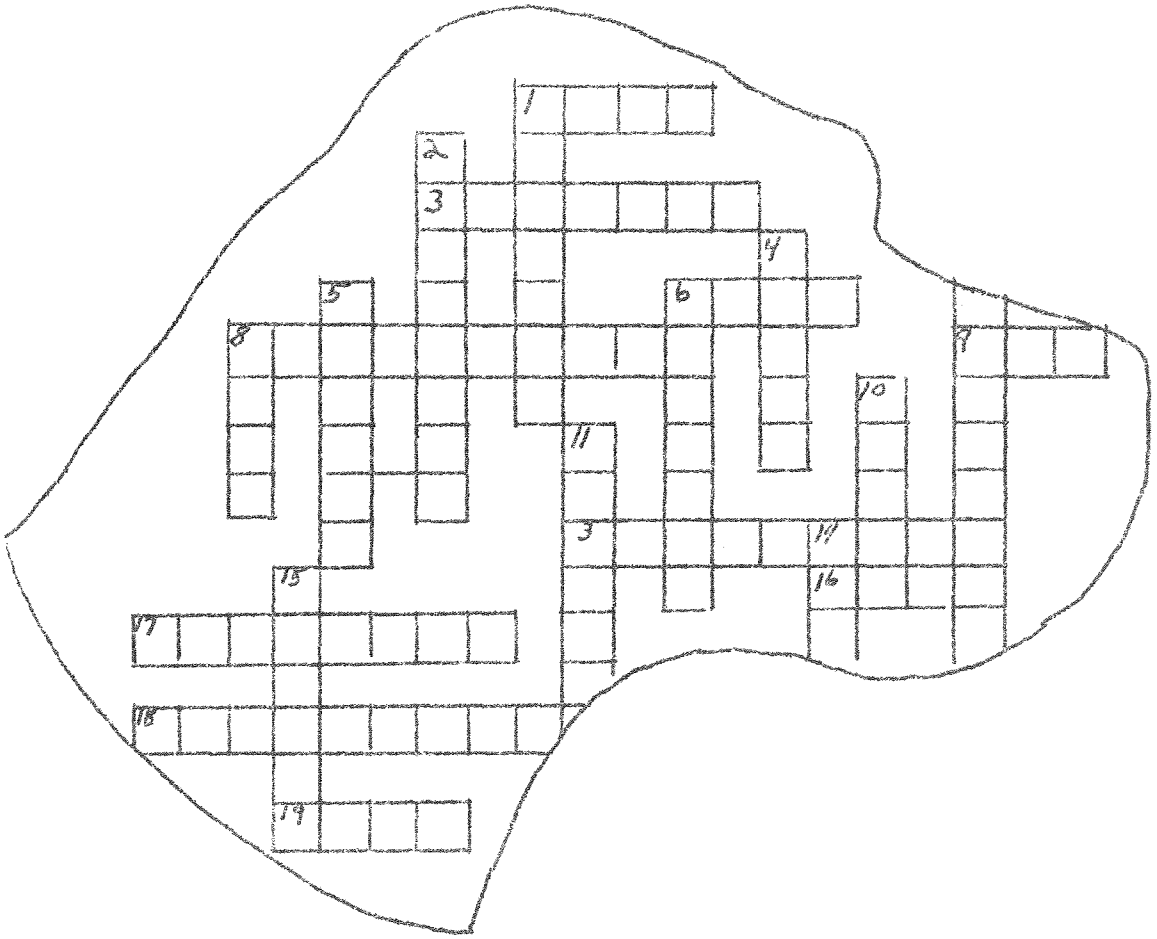
Here are a few things that were interesting to me!

The new Lizzadro Museum at Elmhurst, Ill. A rockhounds dream. Minerals, fossils and lapidary hints, activities that other clubs are taking part in, their field trips and maps, cleaning hints on a variety of specimens.

All of this is on the library shelf, just for the checking out. I'm sure you will find other items that will be of interest to you. So check out a bulletin or a book.

Dorothy Engelhart





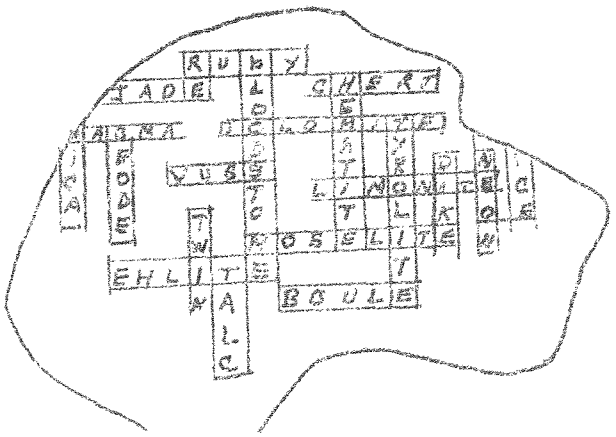
ACROSS

1. Muscovite
3. Peacock ore
6. Magnetite
8. A Nodule
9. Liquid outpour of volcano
13. Cross section of this crystal is triangular
16. Chemical sembol for Selenium
17. Crystal shape habit
18. Massive Steatite
19. Birthstone for July

DOWN

1. Liquid mineral
2. Volcanic glass
4. Skeletons of a marine animal
5. Hardness 7
6. Rock Classification
7. Rock Classification
8. Cemented volcanic ash
10. Rock composed principally of clay
11. Embedded crystals
14. Volcanic cinder
15. Azurite

ANSWERS TO LAST MONTHS PUZZEL



FOSSIL BEDS MAY BE NATIONAL MEMORIAL

The Cook Ranch fossil beds near Agate, Nebr., known world-wide for 50 years, are being considered for a national memorial, according to Howard W. Baker of Omaha, National Parks Service (NPS) regional director.

U. S. Sen. Roman Hruska plans to visit the beds this spring, possibly in early May, Baker said.

Fossils found in the bed half a century ago contributed substantially to the science of paleontology, evidenced by science terms derived from discoveries in the bed.

A one-ton sandstone slab bearing prehistoric rhinoceros bones has been removed to the University of Nebraska State Museum.

"Nearly every important European museum has fossils from Agate", according to Dr. C. Bertrand Schultz, museum director.

Most Famous

"I would say it is the most famous fossil deposit in North America," he added. "About 3,000 acres are under consideration," Baker said. "The land would be acquired for a national momument to preserve the quarries, developed there through the efforts of the late Dr. Harold J. Cook, which are known through the world as a great paleongological find," Baker explained.

In the last two years, Baker added, Dr. Cook had been discussing with the NPS the possibility of designating the park a monument. Mrs. Cook has continued to work with the proposal since Dr. Cook's death last September, he said.

" Sen. Hruska is interested in the possibility of providing protection for the quarries and the possibility of the NPS doing the job," Baker stated.

Most of the land is included in the Cook Ranch, with outlying reaches belonging to 4 interested owners, he said.

Tourism Factor

Local support would favor the monument, said John Elwell Jr. of Sidney, Western Nebraska United Chamber of Commerce's president. "If we could have a national park that would be of service we'd back it to the fullest extent and think it would be good, especially as far as tourism is concerned."

Baker explained that the monument would stress the scientific values of the area, preserving the quarry sites, the fossils, the story of the fossils and their life cycles. " We are thinking of the possibility of illustrating the excavation of fossils in their present location, displaying them to the public and showing scientists working at releasing the fossils, in what we'd call ' On-sight Exhibits,'" Baker said.

All the fossil quarries, an administration headquarters, a visitors center and NPS employee accommodations would be included in the monument area.

Little Recreation

"Recreational possibilities would be limited," Baker added, " to retain the fossil beds and their scientific value." " The primary fossil beds are in two hills, " Dr. Schultz said.

FOSSIL BEDS MAY BE NATIONAL MEMORIAL
(continued)

The proposed monument area lies 35 miles north of Mitchell and 23 miles south of Harrison, Nebraska.

"It would be a wonderful thing for Nebraska and paleontology. We have only one other such monument in the country," he said.

Dr. Schultz explained that the northwestern Nebraska area is famed around the world because it was one of the first and largest prehistoric mammal bone beds and contributed many missing links to the science of paleontology when first discovered.

" Both Dr. Cook and his father, Capt. James H. Cook, made many paleontological contributions," Dr. Shultz said. Capt. Cook was an early pioneer and discoverer of the fossils, and he called scientists attention to the bed. " Dr. Cook became a vertebrate paleontologist and he made many important contributions to the sciences of palentology and geology by his works at the beds."

The two main fossil beds are named University and Carnegie in honor of the early beds worked by University of Nebraska and Carnegie Institute scientists.

The University of Pittsburgh and Amherst College of Massachusetts also did much early work at the beds.

Probably the most valuable fossil uncovered at the beds was a tooth resembling that of a man. It was described by Prof. Henry Fairfield Osborn of Columbia University as an "upper molar of a humanoid anthropoid living 4 to 5 million years ago."

Other rare prizes included a 7½ feet high 3 toed horse, a giant hog measuring 7 feet at the shoulder with a head 4 feet long, alligators, crocodiles and birds never before found north of Mexico.

* * *

ANSWERS TO THIS MONTH CROSSWORD PUZZEL

ACROSS:
1. Mica 3. Bornite 6. Iron 8. Thunderegg 9. Lava 13. Tourmaline 16. Se 17. Fluorite 18. Soapstone 19. Ruby

DOWN:
1. Mercury 2. Obsidian 4. Coral 5. Quartz 6. Igneous 7. Plutonic 8. Tuff 10. Shale 11. Rutile 14. Ash 15. Copper

* * *

The term "precious stone" actually applies to diamonds, rubies sapphires and emeralds. All others are semi-precious. Precious gems are minerals dug from the earth and brought to perfection by the lapidary's art. The pearl, often a gem of great value, is not a precious stone, according to Retail Jewelers of America, Inc.

* * *

The only mineral consumed by man in its natural state is sodium chloride, common salt, which has caused it to be called the "edible gem".

GEM & MINERAL SHOW

Friday and Saturday, April 19 and 20,
9:00 a. m. to 9:00 p. m.

Sunday, April 21
9:00 a. m. to 8:00 p. m.

National Guard Armory

2015 W. Second Street **Hastings, Nebraska**

Sponsored by Central Nebraska Rock and Mineral Society