

DIGGIN'S FROM DAKOTA



MONTHLY PUBLICATION OF THE CENTRAL DAKOTA GEM & MINERAL SOCIETY

P.O. Box 2445, Bismarck, ND 58502-2445

SERVING BISMARCK, MANDAN, AND SURROUNDING AREAS IN NORTH DAKOTA

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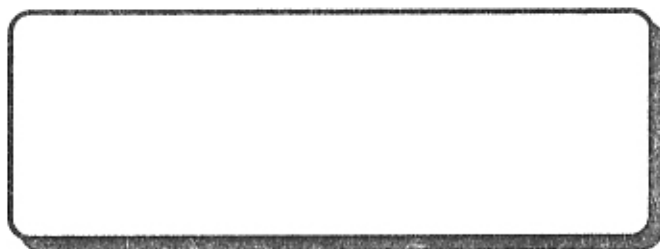
Volume 31, #7
July, 1996



FIRST CLASS

FOR STAMP
CHAIRMAN
SAVE

RMFMS - 2nd PLACE, SMALL BULLETINS, 1992
RMFMS - 2nd PLACE, SMALL BULLETINS, 1987
AFMS - 2nd PLACE, SMALL BULLETINS, 1985
RMFMS - 4th PLACE, SMALL BULLETINS, 1985
RMFMS - 2nd PLACE, SMALL BULLETINS, 1981





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Published by the CENTRAL DAKOTA GEM & MINERAL SOCIETY
P.O. BOX 2445, BISMARCK, ND 58502

Member of

ROCKY MOUNTAIN FEDERATION OF MINERALOGICAL SOCIETIES and
AMERICAN FEDERATION OF MINERALOGICAL SOCIETIES



Organized March 1966

- OBJECT: 1. To further the study of mineralogy and geology;
2. To arrange field trips to collect minerals, gems, and fossils;
3. To assist its members to improve in the art of cutting, polishing, and mounting gem material;
4. To provide opportunities for the exchange, purchase, and exhibition of specimens and materials; and
5. To share knowledge about gems, minerals, and activities of the Society with the general public. --Article II, CDGMS Constitution

MEETINGS: First Sunday of each month at Masonic Bldg., 1810 Schafer Street, Bismarck, ND;

2:00 p.m., November through March; 7:00 p.m. April-October.

EARLY CLASS: One-half hour before each meeting. VISITORS ARE WELCOME.

ANNUAL DUES: Family - \$10.00; Individual Adult - \$8.00; Individual Jr. - \$4.00

1996 OFFICERS

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VICE PRESIDENT -- RUSS OLIGER, RRI, Box 52B, Menoken, ND 58558 - - - - - 255-6440
SECRETARY -- ROBB MORRIS, 615 N. 13th St., Bismarck, ND 58501 - - - - - 221-3205
TREASURER -- NEILL BURNETT, 1002 Arthur Dr., Bismarck, ND 58501 - - - - - 223-6758

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PROGRAM: Betty Mautz - - - - 337-5775
Ray Oliger - - - - 223-4986
HOSP.--LUNCH: Carol Hickle - 794-3342
Emma Brady 663-3903 or - 663-3904
HOSP.--CARDS: Gen Buresh - - 663-5397
FIELD TRIP: Norman Mautz - - 337-5775
John Campbell - 223-6754
EDITORS: Gen/Bill Buresh - - 663-5397
FEDERATION REP.: Ray Oliger - 223-4986
ANNUAL SHOW 1995: Rodney Hickle 794-3342, Ray Oliger 223-4986, Harold Brady 663-3903
RMFMS-STATE DIRECTOR FOR ND: Betty Mautz, Rt. 1 Box 368, Garrison ND 58540 337-5775

EARLY CLASS: John Atwood - - - 222-0389
Harold Brady -663-3903 or - 663-3904
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PUBLICITY: Edna Mausehund - - - 782-4291
STAMP CHR.: Doris Hickle - - - 794-3173
DOOR COUNT: Betty Mautz - - - - 337-5775

All members are encouraged to submit articles/news items for publication.

Material for the bulletin should reach the editor by the 10th of each month.

Advertisements from members will be accepted for the bulletin. (\$2.00 for 1/8 page)

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Central Dakota Gem & Mineral Society's
22nd Annual

GEM & MINERAL SHOW
COMMUNITY CENTER -- MANDAN, ND

Sept. 28-29, 1996

Chr.: Rodney Hickle, HC2, Box 191, Center, ND 58530
Telephone--701-794-3342

We received a cordial note and completed membership update from: Wilma Hilgemann, P.O. Box 216, Leola, SD 57456. In short, she says she wishes she could attend more meetings, but she does enjoy receiving the "Diggins'" and all the good articles. She also said that she could not attend the "Show" the last two years but hopes to attend it this year. "so many wonderful people."



The meeting in September will be on
the 1st, at the Masonic Center. 6:30

GEM HUNTING IN MONTANA - MICHAEL E. SIMONSON

Montana is one of the few places as large as its reputation, which is plenty big enough to hold a wonderful array of gem stones. This article looks at some of the gems found in Big Sky country, and will point you in the general direction in case you're interested. Since any article large enough to discuss all of Montana's gem & mineral resources would be larger than our entire newsletter, and Jerry informs me that space is tight, we will have to take several newsletters to provide even superficial coverage of Montana.

My first impression of Montana gems is from about 1975. I was living in Fargo, and a lady from Moorhead found a \$40,000 sapphire in a river in Montana during her vacation. It made the front page of the Forum, and it made a strong impression on me! Any place that had \$40,000 rocks in the rivers was alright in my books.

I had a thriving little turquoise jewelry business going at the time (who didn't?). I asked my main supplier, Art Brown of Brown's Rock Shop in Moorhead, about Montana. He showed me some fine moss agates and Montana agates. They weren't \$40,000 treasures, but I was impressed anyway. Before I go on, let me say that Art Brown was a very decent gentleman. He ran an exceptionally nice clean rock shop from his home in Moorhead until he had some health problems and had to give up the business. I learned a lot about stones from him. And he treated me very well--although I had too much hair and not enough money. God bless you Art, wherever you may be!

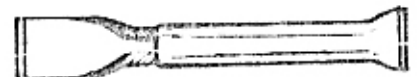
Montana gem stones include garnets, sapphires of various colors, amethyst, opals, star corundums, beryls, agates, various types of quartz, and a variety of other materials. Since I don't have much first-hand experience rock hounding in Montana, I will have to rely upon MacFall's Gem Hunter's Guide*. For Part I of this article, we will look at gems which can be found in the vicinity of Alder, Anaconda, Bozeman, and Butte. According to MacFall, the gems in these areas, and their specific locations are:

- Banded rhyolite can be found in Madison County. From Alder, take road along Ruby River 12 miles, take right fork 8 miles. Collect by the road to Dillon.
- Almadine garnets can also be found near Alder in the Ruby River gravels above storage dam, south side.
- Amazonite can be found 3 miles north of Anaconda, around the falls of Lost Creek.
- Reddish opal can be found near Bozeman. It is found on Mount Blackmore near the top on the south side.
- Amethyst can be found near Butte. Look east of town in the Little Pipestone Creek and in the West fork of the Rader Creek. Amethyst is also at the old Polndorf mine--take Hwy 10 E to 19 Mile Inn, then take dirt road 1.5 miles north.
- Smokey quartz can be found near Butte just north of the Polndorf mine (see directions above). Look in pegmatites of Whiskey Gulch.
- Sapphire can be found NW of Butte in Brown's Gulch.
- Rhodonite can be found near Butte in the mine dumps of the Alice and Lexington mines.

Next month, "Gem Hunting in Montana, Part II".

* Gem Hunter's Guide, Fourth Revised Edition, Russell P. MacFall, 1969, Thomas Y. Crowell Company.

(MIS)



Librarian's Report:

On May 20, 1996 a complete inventory of the material in the library was made - comparing the list with the complete inventory made in March 1990, a copy of which has always been on file with the "check-out" list kept with the library.

All hard cover, and other significant books, pamphlets, reprints, periodicals and newsletters found in the 1990 inventory were present or accounted for, except for the following: one copy of Arizona Highways magazine for Jan. 1974 on Turquoise Jewelry, one old issue of World of Treasures, three issues of Gems & Minerals magazine, three old Lapidary Journals, and a Guide to the Geology of South-Central North Dakota, all of which had never been checked out.

A series of The Mineralogist magazine and parts of six volumes of Rocks & Minerals magazine, all of which were dated prior to 1960 and had never been checked out, were disposed of by the club at the Silent Auction in 1990.

The complete May 1996 inventory, along with a copy of the 1990 inventory, is attached with this report. The new inventory includes several items donated to the club by Vi Anderson after Melvin's death, and two books donated by Neill Burnett.

The Travel packets and old club bulletins listed in the 1990 inventory were outdated and by mutual agreement with club officers at that time were disposed of long ago.

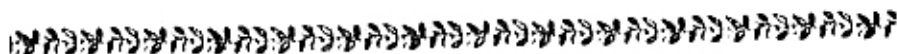
The Historians scrapbooks are up to date through 1995 when I ran out of blank pages. New pages will now be required. All material received for 1996 is included in a separate folder in the book. The two photo albums have ample blank spaces.

With the presentation of this report my term as Librarian/Historian is concluded.

Tella (Sue) Randall



The Central Dakota Gem and Mineral Society would like to take the opportunity to thank Sue Randall for the time, dedication, and organizational skills that she so diligently exercised while serving in the capacity of the clubs' Librarian. Once again, thank you for all your dedication and service. The Editors.....



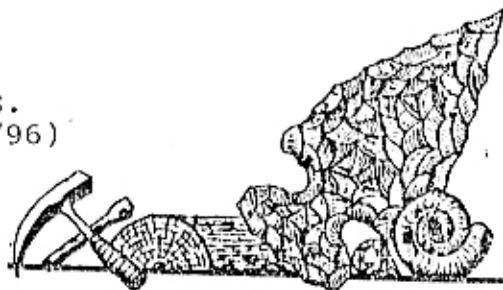
Quip for the month: Be kind to birds. The dove brings PEACE, the robin brings SPRING, and the stork brings TAX DEDUCTIONS. (Fr Rockfinder 2/93 via Petrified Digest 2/96)

CENTRAL DAKOTA GEM AND MINERAL SOCIETY

Inventory of Society Library
May 1996

- THE AGATES OF NORTH AMERICA. Published by Lapidary Journal, 1961.
GEM CUTTING IS EASY. Walter Martin, 1972. Donated by Blossomae Campbell
A GUIDE TO FIELD IDENTIFICATION, MINERALS OF THE WORLD. by Charles Sorrell, 1973. Donated by Blossomae Campbell.
DAN BLANDINGS BOOK OF GEMS & ROCKS. 1969.
NORTHWEST GEM FIELDS & GHOST TOWN ATLAS. 1970.
THE BOOK OF AGATES. by Leland Quick, 1963. Donated in memory of John Tonander.
A PICTORIAL GUIDE TO FOSSILS. by Gerard R. Case, 1982. Purchased in memory of Jane Lanz.
CARL EMBERGE, GOLDSMITH TO THE IMPERIAL COURT OF RUSSIA. by Kenneth A. Snowman, 1983. Donated by Henry Solberg in 1986.
WORLD TREASURY OF MINERALS IN COLOR. by Pierre Harland, 1970.
WYOMING JADE. by Russel P. MacFall, 1980.
MIDWEST GEM TRAILS. by June Culp Zeitner, 1964.
HINTS FOR ROCK HUNTING AND PROSPECTING IN WYOMING. by Dan Har-
WYOMING JADE. by Daniel H. Miller, 1980. (8 page pamphlet)
GUIDE TO GEMS AND PRECIOUS STONES. Simon & Schuster, 1986. Purchased in memory of Ed Kuggh.
DIKSHAIRS WALKED HERE. by Patricia Lamber, 1987. Purchased in memory of Ed Kuggh.
STEWARDS OF THE PAST.
GEMS OF THE ZODIAC. (a single sheet)
COLLECTING ROCKS. (pamphlet)
ROCKY MOUNTAIN MINING CAMPS. Donated by Neill Burnett, 1995.
MINERALOGY OF THE BLACK HILLS. by Willard L. Roberts & George Rapp. Jr. 1965. Donated by Neill Burnett.
MINERALS AND ROCKS. by Brian Simpson. Donated by Vi Anderson.
FACTORS GEM CUTS. Donated by Vi Anderson.
AQUATIC MOLLUSKS OF NORTH DAKOTA. by Alan M. Cavanaugh, 1983.
THE FACE OF NORTH DAKOTA, THE GEOLOGIC STORY. by John P. Blumie. 1979. (2 copies)
DATING OF MINING CAMPS
PALEOENVIRONMENT OF A LATE QUATERNARY MAMMOTH-BEARING
SINKHOLE DEPOSIT, Hot Springs, SD.
PAUL BRODIE, RENAISSANCE MAN. An article in North Dakota Horizon, May 1992.
ARIZONA GEMS AND MINERALS. An article in Arizona Highways, May 1992.
NORTH DAKOTA STATE FOSSIL. by Alan M. Cavanaugh
NORTH DAKOTA GEOLOGICAL SURVEY PUBLICATIONS
Guide to the Geology of South-eastern North Dakota, 1972, John P. Blumie
Guide to the Geology of North-eastern North Dakota, 1972, Mary E. Blumie
Guide to the Geology of North-central North Dakota, 1974, John P. Blumie
Guide to the Geology of Northwest North Dakota, 1975, John P. Blumie
Guide to the Geology of Southwestern North Dakota, 1975, John P. Blumie
N.D.G.S. Newsletters - Dec. 1977; Dec. 1978; June 1978; Dec. 1989.
MISCELLANEOUS PERIODICALS & PUBLICATIONS
World of Treasures - 1980, Apr., May; 1981, Jan. Apr., June, Aug., Oct., Dec. 1982, Feb., June., Aug.
Lapidary Journal - 1982, May.
Current Science - 1982, Sept.
Rocky Mountain Federation of Mineralogical Societies
Directories - 1982, 1984; 1985; 1987.
Newsletters - Aug. 1970; Sept. 1975; Jan. 1982; Mar. 1982.
Exhibitor's Manual 1969 (obsolete)
Uniform Rules 1977 (obsolete)
American Federation of Mineralogical Societies
Newsletters - Feb. 1982; Apr. 1982; June 1983; Feb. 1985.
Miscellaneous
Primer for Lapidarists by Chester D. Balcock. (4 copies available)

Tella (Sue) Randall
Librarian



THE AMERICAN FEDERATION "Code of Ethics"

I will respect both private and public property and will do no collecting on privately owned land without the owner's permission.

I will keep informed on all laws, regulations or rules governing collecting on public lands and will observe them.

I will, to the best of my ability, ascertain the boundary lines of property on which I plan to collect.

I will use no firearms or blasting material in collecting areas.

I will cause no willful damage to property of any kind - fences, signs, buildings, etc.

I will leave all gates as found.

I will build fires in designated or safe places only and will be certain they are completely extinguished before leaving the area.

I will discard no burning material - matches, cigarettes, etc.

I will fill all excavation holes which may be dangerous to livestock.

I will not contaminate wells, creeks, or other water supplies.

I will cause no willful damage to collecting material and will take home only what I can reasonably use.

I will support the rockhound project H.E.L.P. (Help Eliminate Litter Please) and will leave all collecting areas devoid of litter, regardless of how found.

I will cooperate with field-trip leaders and those in designated authority in all collecting areas.

I will report to my club or federation officers, Bureau of Land Management or other authorities, any deposit of petrified wood or other materials on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.

I will appreciate and protect our heritage of natural resources.

I will observe the "Golden Rule," will use "Good Outdoor Manners," and will at all times conduct myself in a manner which will add to the stature and public "image" of rockhounds everywhere.

*Polishing dinosaur bone: The bone is handled much like agate, sanded to 600 grit on silicon carbide and polished on hard felt with tin oxide. The stone is then finished with black rouge on a muslin buff. The muslin buff can clean out the tin oxide that remains between the bone cells, and the black rouge applies a stain to the tin oxide that remains behind. (Roger K. Pabian, PICK & SHOVE! via THE ROCKPILE 12/94)

via T-Town Rockhound, 1/95

This is a rendition of a new pin which will be introduced in Riverside to commemorate the AFMS 50th Anniversary next year.

This picture is larger than actual size.



Each Club — Each Year — One Rockhound

This AFMS activity is an on-going program whereby each club is encouraged to recognize one of their members each year for their outstanding contributions as rockhounds. Nominations may be submitted at any time during the year; there is no deadline date. Honorees names will be published as received throughout the year.

This AFMS committee makes no distinction as to who is recognized and who is not. All names submitted for recognition will be published in the AFMS Newsletter. The only restriction is that each club may only submit one nomination per year. For this program married couples are considered to be 'one'. If a club submits a second nominee within a given year, the second nomination will be held for publication until the following year.

Reasons for the recognition should be kept short and simple. And please tell us the name of your club, and the city and state where located as well as the individual sending in the information.

Nominations may be sent to your regional federation representative as listed in your directory [AFMS Newsletter, March '96, p5, Education Thru Sharing.] Nominations may also be sent directly to 9034 West Lisbon Avenue #24, Milwaukee, WI 53222-2745.



Cushion



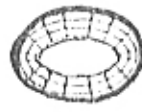
Brilliant



Pear



Step



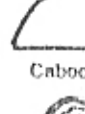
Mixed



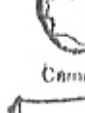
Band



Cabochon



Cameo



Polished



NOMINATING COMMITTEE IS ON THE PROWL! Have you said "YES?"

WHY BE AN OFFICER? by Norm and Lucille Hewer

Why be an officer? It can only mean meetings, rallies, dinners and lots of work. You'll sometimes get the blunt end of the stick and all complaints are headed in your direction. Are these your thoughts when approached by your nominating committee? If so, why not look at the other side of the card?

You attend an executive meeting. It isn't long and you discover what it takes to keep the club moving forward. Not only that, but now you are a part of the decision making team and your fellow officers are the people you park next to at the rallies or sit next to at the dinners. Together you generate new ideas for the year or maybe a single event to be presented to your members. It's business, fun and fellowship, and better yet, another night out.

At your rallies and dinners you discover how fortunate you are, as being involved you realize how many members you really begin to know. This is one of the greatest opportunities you will have. The friendships you will make within our club and other clubs will always be a very valuable memory of your duty as an officer.

Work! Yes, but because of the membership you would serve, it isn't as bad as one might think. There is always someone there to pitch in. They may not always volunteer, but are always there willingly when asked.

Serving your club as an officer is a privilege and a very rewarding experience. The joys are endless and the results gratifying because you were a part of it. Why be an officer? For all the right reasons: friendships, involvement, decision making and most of all, enjoyment. It's a great experience--as we know.

I hope that everyone has now read the article and will bear this in mind when the need for officers in their unit is required.

Without dedicated officers our club would not function. We have many members with an abundance of talent, and I hope this may motivate them to come forward and share in the rewards of participation.

from Metro-Detroit club via Chaparral Chatter 9/88
SHAWNEE SLATE JANUARY 1996

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### Are You Online?

S.C.R.I.B.E. members with Internet electronic mail access (this includes users of CompuServe, Prodigy, and America Online) are asked to provide their email address for a list which will appear in an upcoming issue of our bulletin. Please email the following information to Richard Busch (S.C.R.I.B.E. Secretary) at [rbusch@doesscience.com](mailto:rbusch@doesscience.com). Thanks!

Your Name  
Your Email Address

Your Bulletin's Name  
Your Society's Name  
Your Society's City and State/Country



### THE STORY OF STERLING SILVER

IN ANCIENT TIMES, BANDS OF TRADERS ROAMED THE EUROPEAN CONTINENT. OFTEN THEY TRADED THEIR GOODS FOR OTHER WARES OR TOOK PAYMENT IN COINS OF THE LAND WHERE THEY HAPPENED TO BE.

ONE SUCH BAND CAME FROM FIVE FREE TOWNS IN EASTERN GERMANY AND WERE KNOWN AS "EASTERLINGS". FREE TOWNS IN THE 12TH CENTURY MADE THEIR OWN LAWS AND EVEN MINTED COINS AND CURRENCY. THESE TRADERS CROSSED THE ENGLISH CHANNEL AND TRADED FOR ENGLISH GOODS. IT SOON BECAME COMMON KNOWLEDGE THAT THE EASTERLINGS WERE HONEST TRADERS AND THAT THEIR COINS COULD BE COUNTED ON TO CONTAIN 925 PARTS IN 1000 OF PURE SILVER. THESE COINS WERE IN GREAT DEMAND BECAUSE OF THIS CONSISTENTLY ACCURATE SILVER CONTENT AND BECAME KNOWN AS "EASTERLINGS." THIS NAME BECAME "STERLING" AS IT IS KNOWN TODAY.

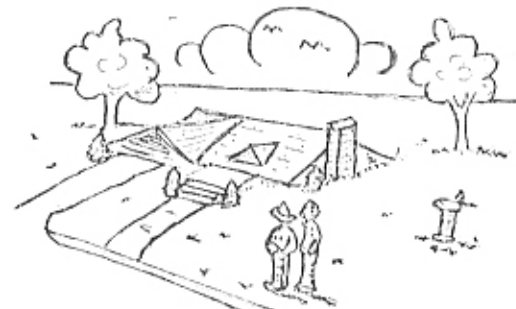
THE 925 PARTS PURE SILVER IS BLENDED WITH A BASE METAL, USUALLY COPPER, TO ADD DURABILITY TO THE SILVER. NOW ALL STERLING IS THUS ALLOYED AND FIXED BY LAW.

STERLING'S MELTING POINT IS 1640 F. IT MAY BE HARDENED BY HAMMERING OR WORKING. IT IS SOFTENED BY HEATING TO 1200 F AND QUENCHING IN WATER. THE SOFT BEAUTY OF STERLING SILVER IS ENHANCED BY CAREFUL USAGE AND PROPER CARE. ARTICLES MADE FROM THIS METAL SERVE A LIFETIME AND ARE EVER BEAUTIFUL.

GOLDEN SPIKE NEWS 3/88

VIA GEM TIME 5/96

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"I knew Rocky had too many rocks

in his basement."

(By Rocky West in the T-TOWN ROCKHOUND 7/61)

via T-Town Rockhound, 8/95





# CENTRAL DAKOTA Gem & Mineral Society



## 1995 - 1996 RMFMS REPORT

CENTRAL DAKOTA GEM AND MINERAL SOCIETY'S YEAR RUNS FROM THE DATE OF OUR ANNUAL SHOW AT THE END OF SEPTEMBER TO THE NEXT SEPTEMBER OUR LAST SHOW SEPTEMBER 27, 28 OF 1995 WAS OUR 21ST SHOW. AS OUR MEMBERS AGE IT GETS HARDER AND HARDER TO PUT ON A SHOW. WE ARE ALL HOPING TO GET TO THE 25TH SHOW IN THE YEAR 2000. IT IS THE ONLY SHOW IN NORTH DAKOTA.

ONE THING I REPORTED TO THE RMFMS CONVENTION IN 1992 AT SALT LAKE CITY WAS THE PLACEMENT OF THE 80 FOOT LONG PETRIFIED LOG ON OUR STATE CAPITOL GROUNDS. I AM HAPPY TO REPORT THAT THERE IS NOW A NEW BOOK (PRINTED IN APRIL 1995) TITLED "A VISITOR'S GUIDE TO THE NORTH DAKOTA CAPITOL GROUNDS, BUILDINGS, MONUMENTS, AND STONES". THE BOOK HAS A VERY NICE WRITE-UP ON THE PETRIFIED LOG AND THE TWO PETRIFIED TREE STUMPS THAT WERE DONATED BY OUR CLUB. (ARTICLE ATTACHED).

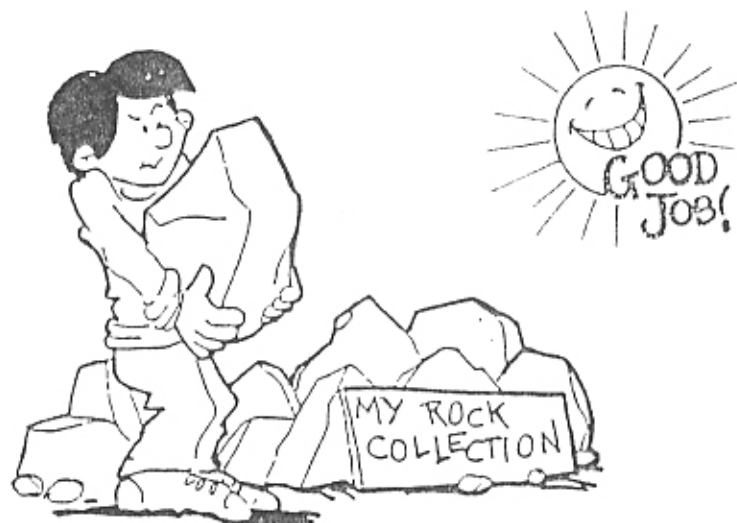
AS MANY OF YOU MAY OR MAY NOT KNOW OUR STATE FOSSIL IS "TEREDO-BORED PETRIFIED WOOD". THIS LAST YEAR, OUR CLUB TRIED (WITHOUT SUCCESS) TO GET SILICA (KNIFE RIVER FLINT) INTRODUCED THRU OUR STATE LEGISLATURE AS OUR STATE ROCK. WE WILL TRY AGAIN NEXT YEAR.

KNIFE RIVER FLINT IS VERY ABUNDANT IN WESTERN NORTH DAKOTA, AND WAS USED BY NATIVE AMERICANS FOR THEIR ARROWHEADS AND SPEAR POINTS. IT WAS ALSO TRADED IN A WIDE AREA OF THE UPPER UNITED STATES AND CANADA.

I WOULD LIKE TO REPORT THAT BILL AND GEN BURSEH, EDITORS TO OUR CLUB NEWSLETTER, "DIGGIN'S FROM DAKOTA", HAVE RETIRED AFTER 21 YEARS. WE WERE VERY LUCKY AS AT THE MEETING DURING WHICH THEY RESIGNED, NEW MEMBERS OF OUR CLUB, JERRY AND JIM NEVLAND VOLUNTEERED TO BE OUR NEW EDITORS.

WE HAVE HAD CONTACT WITH A NEW CLUB STARTING UP IN DICKINSON, NORTH DAKOTA. HOPEFULLY THEY MAY JOIN THE RMFMS IN THE NEAR FUTURE. THEY HAVE ABOUT 30 MEMBERS SO FAR. WE HAVE ASKED THEM TO BE PART OF OUR SHOW IN SEPTEMBER, TO WHICH YOU ARE ALL INVITED.

*Raymond Oliger*  
RAYMOND OLIGER  
NORTH DAKOTA STATE DIRECTOR

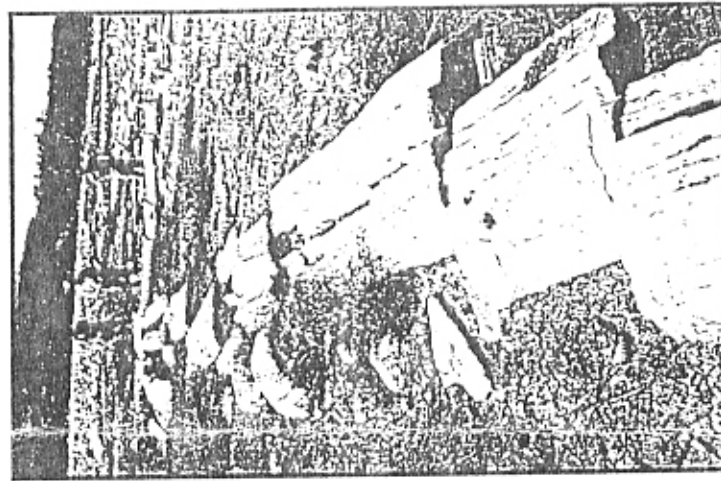


### Show and Tell



the genus *Metasequoia*. The log is oval in cross-section because it has been deformed under the weight of overlying sediments.

The two petrified tree stumps were donated by the Central Dakota Gem and Mineral Society and placed on the capitol grounds in 1988. The Central Dakota Gem and Mineral Society was also the principal sponsor of the project to display the petrified log at the capitol grounds, with sponsorship also provided by the Society of American Foresters, the North Dakota Nursery and Greenhouse Association, and the North Dakota Geological Society. The North Dakota Geological Survey provided technical advice regarding appropriate excavation and preservation of the petrified log. In the summer of 1990, the Washburn unit of the Army National Guard helped excavate the specimens, transport them to Bismarck, and place them on the capitol grounds. The logs were dedicated in 1991.



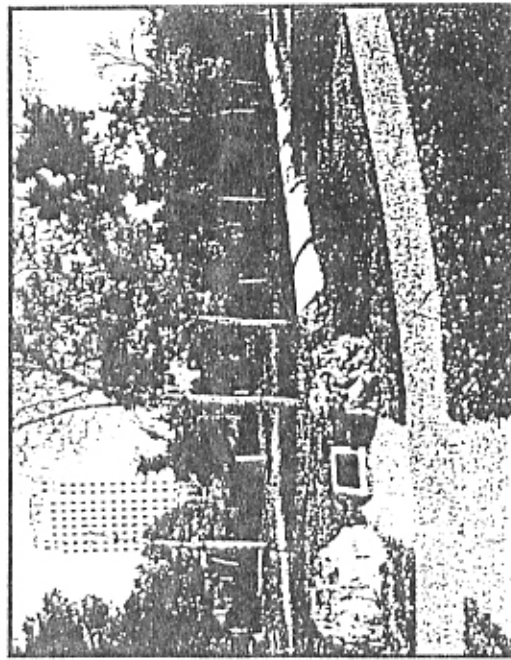
Petrified *Metasequoia* log where it was originally discovered, weathering out of the Sentinel Butte Formation along the shores of Lake Sakakawea. Photo by John W. Hoganson, North Dakota Geological Survey.

## Stop 12. Petrified Log and Stumps

| Geologic/Trade Name | Use     | Source       | Geologic Age |
|---------------------|---------|--------------|--------------|
| Petrified wood      | display | North Dakota | Paleocene    |

This eighty-foot-long petrified log and two stumps belong to the genus *Metasequoia* (dawn redwood) and are about 60 million years old. The petrified log was one of many in a Paleocene "forest" found weathering out of the Sentinel Butte Formation along the shores of Lake Sakakawea. The bark, knotholes, and growth rings are easily discernible. The two stumps, more agatized or "glassy" than the trunk itself, are also from the Sentinel Butte Formation, but from the Amidon area of Slope County.

The dawn redwood once grew in temperate climates around the world. It was first discovered from fossils in 1941 and was believed to be extinct until living trees were discovered in south-central China in 1945. Today, the dawn redwood is widely used as an ornamental tree. The rapidly tapering trunk and crown are characteristic of



## Recognizing meteorites can earn you extra profits

**H**ow many times have you cleared away a "nuisance rock" from a field and tossed it alongside a fence row, or into a rock pile? At one time or another you may have picked up one that was somewhat heavier than most. Or you may have run across an odd looking stone that just showed up in the field overnight. At any rate, you probably didn't give it a second thought, and went on about your business.

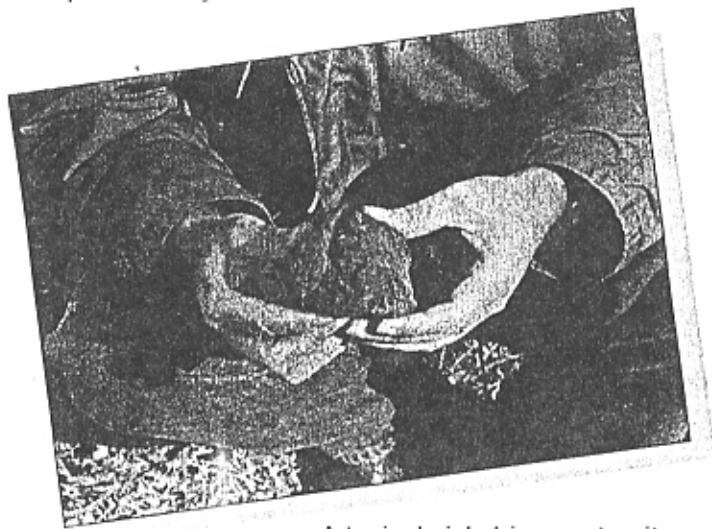
In all probability you may have tossed aside several hundred or several thousand dollars, if one of those rocks had been a meteorite. Even though the intrinsic value of a meteorite is scientific, good prices are now being paid for them. Right out of the field!

**How do you tell?** What is a meteorite? And, how does one recognize these elusive visitors from outer space?

Most meteorites are made up of dense stony materials with metallic nickel-iron granules mixed in. The internal colors of these stones can range from white or gray, to various shades of dark green—even black. Some may be made up almost entirely of metal. This means, most of the time, a strong magnet will be attracted to them.

If you carefully grind off a corner or an edge of a stony meteorite with an emery wheel you most likely will see bright, metallic specks scattered throughout the stone. A nickel-iron meteorite will look like solid steel on a ground surface. Stony-iron specimens may reveal an abundance of beautiful, yellowish-green crystals mixed throughout a meshwork of bright metal.

Never beat on a suspected meteorite with a hammer, or heat it with a torch. This ruins any scientific value the specimen may have.



A typical nickel-iron meteorite found in Oklahoma. Note the rusty, weathered appearance and plow mark on this 19-lb. specimen.

Meteorites that are freshly fallen will be textured much like fine to medium emery paper. Generally, their outer surface will be either a dull or glossy black color, but in rare cases they can be chalky white. Meteorites can be almost any shape, with their corners and edges notably dulled or flamed off.

Another common surface feature are shallow pits that resemble thumb prints pressed in soft clay. In time, all meteorites succumb to the process of weathering and become brownish because of rusting and soil staining. It is not uncommon for a specimen that has been in the ground for several hundred years to look like an ordinary dark rock. Extremely old meteorites may not reveal any metal at all, or they may exhibit numerous cracks and crevices. They may even be laminated and flaky.

## HAPPY BIRTHDAY

AUGUST

Birthstone: SARDONYX, PERIDOT

Flower: GLADIOLUS

|        |                      |
|--------|----------------------|
| Aug 20 | Walter Bosley        |
| 24     | Richard Hoerner      |
| 24     | Ledores Robey (1924) |
| 29     | Gary Ellis           |



AUGUST

|        |                                         |
|--------|-----------------------------------------|
| Aug 10 | Jeffcoat-Sacco,<br>Paul & Illona (1974) |
| 13     | Ringland, John & Terry                  |
| 15     | Randall, Bob & Sue (1941)               |
| 23     | Schwartz, Mike & Sharon<br>(1971)       |



**Moon and Mars.** During recent years, a handful of meteorites have been recognized as having Lunar and Martian origins. These stones are usually quite small, and their interiors are either light gray, or dark charcoal gray in color. The latter have an abundance of small white flecks. These exotic stones usually contain no metal and can be difficult to distinguish from ordinary Earth rocks.

If you find a rock that is heavy, and is attracted to a magnet, carefully break off a piece no smaller than a pecan. Then send the sample by U.S. mail to the Oklahoma Meteorite Laboratory, P.O. Box 1923, Stillwater, OK 74076. Or you may call (405) 372-2311 for further information. All tests will be performed free. If the rock proves to be a meteorite, an offer of purchase will be made. ❖

The Farmer/Dakota Farmer Mid-February 1996

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## GEOLOGIC TIME SCALE

| ERA         | PERIOD        | EPOCH       | M YRS AGO | LIFE FORMS                  |
|-------------|---------------|-------------|-----------|-----------------------------|
| Cenozoic    | Quaternary    | Holocene    | .01       | Post glacial                |
|             |               | Pleistocene | 2         | Ice age                     |
|             | Tertiary      | Pliocene    | 6         | Age of mammoths             |
|             |               | Miocene     | 25        | Spread of anthropoid apes   |
|             |               | Oligocene   | 37        | Origin of modern mammals    |
|             |               | Eocene      | 54        | Origin of giant mammals     |
|             |               | Paleocene   | 65        | Origin of early mammals     |
| Mesozoic    | Cretaceous    |             | 136       | Extinction of dinosaurs     |
|             | Jurassic      |             | 190       | Height of dinosaurs         |
|             | Triassic      |             | 225       | Mammal-like reptiles        |
| Paleozoic   | Permian       |             | 280       | First modern insect         |
|             | Carboniferous |             | 320       | Earliest reptiles           |
|             |               |             | 345       | Earliest amphibians         |
|             | Devonian      |             | 395       | Earliest seed plants & fish |
|             | Silurian      |             | 435       | Earliest land plants        |
|             | Ordovician    |             | 500       | Earliest vertebrates        |
|             | Cambrian      |             | 570       | Earliest invertebrates      |
| Precambrian |               |             | 4,500     | Origin of life; algae, worm |

## HOW GEOLOGIC TIME PERIODS GOT THOSE CRAZY NAMES

(from *Oregon Rockhound*, 12/95, Stephen Burinsky, Editor)

The three geologic eras are the Paleozoic, Mesozoic and Cenozoic, from the Greek for ancient, middle and recent life. They are divided into 11 periods, most of them named for places where rock from the period were first discovered.

The Cambrian Period (570 to 500 million years ago) is named for Cambria (or Wales). The next two periods also have Welsh names. Ordovician and Silurian for two Welsh tribes, the Ordovicians and the Silurians.

The Devonian is named for Devonshire, and Cretaceous comes for "creta," Latin for chalk. Creta refers to the white cliffs of Dover.

The Jurassic is named for the Jura Mountains in Germany, and the Permian for Perm in Russia's Ural Mountains.

The Triassic got its name because it was easily divisible into three parts. And the Carboniferous is named for carbon, because most coal deposits date to that period.

The most recent periods are Tertiary and Quaternary named for types of rocks dated to those times. They are divided into epochs, whose names all end in "cene," a Greek root meaning recent.

Pleistocene is from the Greek for most recent. Preceding it are the Pliocene, Miocene, Oligocene,

Eocene and Paleocene, for the most recent, less recent, little recent, early recent, and oldest recent.

(via *The Rocky Reader*, et al)(from *Stone Age News* via *The Pebbles*)