



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

Gen & Bill Buresh, Eds.
DIGGIN'S FROM DAKOTA
44 Captain Marsh Dr.
Mandan, ND 58554-4704

Volume 30, No. 4
April, 1995

FIRST CLASS

SAVE STAMPS FOR

SAVE STAMP FOR

STAMP CHAIRMAN

STAMP CHAIRMAN

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

1995 OFFICERS

PRESIDENT - RAY OLIGER, 516 N. 20th St., Bismarck, ND 58501 - - - - - 223-4986
VICE PRES. - BETTY MAUTZ, Rt 1, Box 368, Garrison, ND 58540 - - - - - 337-5775
SEC'Y. - DOUG HANSON, 407 Easy Street, Bismarck, ND 58504 - - - - - 223-3945
TREASURER - NEILL C. BURNETT, 1002 Arthur Dr., Bismarck, ND 58501 - - - - - 223-6758

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PROGRAM: Betty Mautz - - - - 337-5775
Ray Oliver - - - - 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
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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
21st Annual
GEM & MINERAL SHOW
COMMUNITY CENTER -- MANDAN, ND
Sept. 23-24, 1995

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

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Vol. 30, No. 4

APRIL 1995

NEXT MEETING: May 7, 1995,
Masonic Bldg., 1810 Schafer St., Bismarck
EARLY CLASS-- 6:30 p.m.: Neill Burnett
MEETING: 7:00 p.m.
PROGRAM: Robb and Sandy Morris
LUNCH COMMITTEE: Verna Giese, Lenora Opp,
and Sue Randall



PRESIDENT'S MESSAGE

We had our first evening meeting of the year and it was well attended. Thanks to Norman and Betty Mautz for the Early Class and Show and Tell items. The program, a video on "The Last Ice Age," was very interesting.

If anyone has ideas for programs, please let us know.

Our next meeting will be on May 7--6:30 P.M. for the Early Class and 7:00 for the meeting. I hope to see you all there.

Ray Olinger

CALENDAR OF EVENTS

- Apr 15 BISMARCK, ND--ND Paleontological Soc. Meeting, 7:30 p.m.,
Capital Electric Bldg., Highway 83 North
Apr 22-23 BILLINGS, MT--Annual Show; Billings Gem & Mineral Club, Bldgs. Metra Park
May 7 BISMARCK, ND--Central Dakota Gem & Mineral Soc. Early Class--6:30;
Meeting--7:00 p.m., Masonic Building, 1810 Schafer St.
May 19-21 ELLINWOOD, KS--22nd Annual Rock Swap; City Park (NW corner of city)
June 17-18 TORRINGTON, WY--Wyoming State Show, Fairgrounds, Hwy. 26 & 85W

1995 REGIONAL FEDERATION SHOWS

- Apr 28-30 SOUTH CENTRAL FEDERATION, Waco, TX
June 9-11 ROCKY MOUNTAIN FEDERATION, Oklahoma City, OK Fairgrounds
June 23-25 CALIFORNIA FEDERATION, Santa Clara Valley Expo. Ctr., San Jose, CA
July 13-16 NORTHWEST FEDERATION & AFMS FEDERATION combined, Boise, ID Convention Ctr.
Oct 13-15 MIDWEST FEDERATION, Detroit, MI
Dec 8-10 SOUTHEAST FEDERATION, Fairgrounds, Nashville, TN --AFMS Newsletters, 11/94 and 3/95

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← MANDAN, ND--21st ANNUAL SHOW--Central Dakota Gem & Mineral Society
Sept. 23-24, 1995 Chairman: Rodney Hickle (See previous p.)

PROGRAM APR. 2: THE RECENT ICE AGE

For the program at the April meeting, Ray Oliger showed a video, *The Recent Ice Age*.

With pictures and script, the video explained how glaciers formed and later flowed over vast areas of the North American continent, including North Dakota. Whenever glaciers advanced in cold cycles or receded when the climate warmed enough to melt some of the ice, the shape of the land was changed permanently.

The advancing glaciers sheared off the tops and sides of hills and mountains as they made their way through valleys, whereas melting ice in summers formed channels for increasingly larger streams. Lakes also formed.

As in other areas, North Dakota still shows the effects of glaciers. □

APRIL EARLY CLASS For the Early Class, Betty and Norman Mautz gave an enthusiastic report of their recent visit to New Mexico. In addition to visiting Betty's sister and brother-in-law, they attended the Deming swap, the Tucson show, and several field trips. The Lordsburg week was different--dealers on weekends and field trips during the week. Attendees for the field trips were transported in vans with a guide in each.

They toured the Morenci Mine, the largest open pit mine at this time for azurite and malachite, as well as the Tyrone Mine, which currently is mining only for material for the leaching process; they no longer mine material for the smelting process. Betty explained that leaching is a more cost-effective way of using low grade ore.

Betty and Norman displayed many specimens they brought home, including azurite, malachite, copper plate (from an electrolysis process), chrysocolla (rough), copper "clinkers" pyrite (\$10/lb.), and azurite chunks.

The Mautzes also met along the way with members Rae and Bob Sprong of Saskatchewan.

TAX is a three-letter word that generates a lot of four-letter words. THE BURRO EXPRESS 3/95

A FUTURE PETRIFIED FOREST with a great number of trees standing has been started at the site of Mt. St. Helens. Trees were blown into lake water with enough material in their roots to sink them so that they are upright but under water. Scientists believe that they may be petrified in 20 or 30 million years.

The only word in the English language that contains ten letters, all different and having all five vowels, is TOURMALINE.

--Inf. from EARTH SCIENCE NEWS 1/95

DID YOU KNOW? Do you know the difference between a fossil limb section and a limb cast? Some call a specimen by either name, not realizing there is a difference.

A limb cast occurs when a buried limb has decayed and the resulting void was filled with agate or other material. The cast is in the form of the original limb, but no cell or ring patterns have been preserved.

A fossil limb section is a portion of petrified wood. As the wood decayed, it was gradually and completely replaced by mineral deposits, cell by cell. Thus a part of the wood structure--cells and rings--has been preserved. --THE BURRO EXPRESS 3/95 via SMS MATRIX/GEMS OF THE ROGUE 1994

WIFE: I'm glad our neighbors returned our rock hammer before they moved. HUBBY: Our rock hammer? I just bought it at their garage sale! WGGMS NEWSLETTER, 2-3/95

PRESIDENT RAY OLIGER has asked the editors to say "Thanks" to Jim Nevland for the projection screen he donated to the club.

FROM THE LAST MEETING, APRIL 2, 1995

The regular meeting of the Central Dakota Gem & Mineral Society was held on April 2, 1995 at the Masonic Temple in Bismarck. President Ray Oliger presided. The meeting began after the Pledge of Allegiance.

Minutes from the March meeting were approved as read. Neill Burnett gave a financial report. Neill also gave an update of the 1995 membership. He reported 50 family memberships, 25 single, five life and one junior membership for a total of 81 memberships.

Field Trip Committee: Norman Mautz asked for ideas that members had for field trips.

Hospitality: May--Sue Randall, Verna Giese and Lenora Opp.

Librarian/Historian: Sue Randall mentioned to members that they should take advantage of the library during meetings.

Show Chairman: Rodney Hickie mentioned hat one more dealer has signed on for the show.

Door Count: 28 adults, 2 guests, 3 juniors.

New Business:--Ray Oliger read from a book titled *The Book of Agates* by Leland Quick. It has a section on North and South Dakota on page 146.

Unfinished Business: Neill Burnett mentioned that Helen Marquart, a third grade teacher from North Dakota, won the Presidential Award for science teachers in elementary schools. She and teachers from the other 49 states will receive the award in Washington, D.C. She was asked to bring something unique from North Dakota. She will take 85 pieces of Knife River Flint in individual bags with a description inside each bag.

Door prizes were won by Jim Ellis, Junior--apache tears, and the adult prize, a specimen of chrysocolla/malachite, was won by John and Mona Dockter. □ --From notes from Doug Hanson, Secretary

The program after the meeting consisted of a video production called *The Recent Ice Age*, presented by Ray Oliger.

After the program, lunch was served by Agnes Berg and Edna Mausehund. □

MAY BIRTHSTONE: Emerald
MAY FLOWER: Lily of the Valley

HAPPY MAY BIRTHDAY--

May 2 Jim Nevland May 4 Jim Ellis
(No May anniversaries on record)

NEW MEMBERS & RENEWALS

Dockter, John H./Ramona	663-5590
300 - 6th Ave. NE, Mandan, ND 58554	
Hoerner, Richard	348-3457
Box 48, Almont, ND 58520	
Morris, Robb/Sandy	221-3205
615 - 13th St. N, Bismarck, ND 58501	
Peterson, Dr. John K.	258-4538
3111 Winnipeg Dr, Bismarck, ND 58501	

WELCOME!!

MEMBERS--Please add the names above to your club roster sent with the March bulletin.



RHODOCHROSITE is also called Rose de Inca. This rare and beautiful pink to rose-red stone is mined almost exclusively in a remote Andean region of Argentina called Capilita. The name comes from the Greek--*rhodo* for pink and *inchros* for color. It was discovered by the Inca and treasured by them from about the 12th century. Later, a man named Franz Mansfield rediscovered the mine. During his explorations, he also found an Inca mummy holding a rhodochrosite amulet carved from this stone. Formations with a circular pattern of light and dark occur in Argentina. Highly artistic pieces are carved from this legendary Inca Rose. Because of its cost and rarity, small pieces are more frequently cut today. --From GEMS OF THE FOOTHILLS [n.d.] via THE BURRO EXPRESS 2/95 □

THESIS -- ANY PIECE OF JADE WILL TAKE A POLISH!!

by Tom Leedham in FOSSIL TRAILS 10/94

Jade varies from piece to piece in characteristics that affect grinding and polishing. If one system fails a person must try alternatives that eventually will result in a creditable polish. Grind and polish as you would an agate. Remember jade is softer and more fibrous. Take the following precautions:

1. Trim saw your piece out of the slab without pushing. Take your time. If you try to rush the sawing you may start small edge fractures that will show up in the final stone.

2. Grind to size using plenty of water. Don't push too hard or you may get a "white spot" or spread the edge fractures.

3. Grind to shape using a steady turning of the stone on the wheel so that you are taking off the unwanted material without danger of enlarging any small edge fractures. Don't zip back and forth. Be on the lookout for potential hard spots. If they show up carefully take them down.

4. 200 sand with uniform strokes--steady, but light.

Check frequently. The grinding marks will disappear quickly. The shaping of the stone is the main thing.

5. 320 sand the hard spots if any start to show.

6. 400 sand--work the hard spots down. Finish sanding lightly and complete the shape.

7. 600 sand -- light steady pressure.

8. Polish on leather disk. First clean off the buff with a wad of wet paper toweling and squirt water on at the same time. Get rid of all the old tin oxide and crud that you possibly can. Polish the stone on the leather near the center of the disk. In other words, use slow speed. Use a squirt of water on the buff. Put a little dab of tin oxide on your stone--not on the buff. When the buff starts to dry you will get the best pulling action. You can use pressure but get the pulling action.

Jade takes much longer to polish than agate. Don't give up!

If the stone winds up having irregular marks, orange peel, lumps, or hard streaks, you will have to try something else. The best alternative is a system of hand finishing.

HAND FINISHING

1. Go back to the 400 grit drum and try to get a good looking shape and contour. Maybe you will have to go back to 320 if it is an old belt--then to hand finishing.

2. Alternatively--use the hand finishing sequence. This requires "wet-or dry" sandpaper. It may be available in hardware stores, lumber yards or home improvement centers. It is always available in stores that have materials and equipment for the auto body repair trade.

Get 320, 400, 600, 1200 (or ultra fine). The sheets cost about \$0.85 for an 8-1/2 x 11" sheet. Cut the sheets (or fold and tear) to 1/8 size (2-3/4" x 4-1/4"). This size fits comfortably in your hand. Also, you should have a flat piece of wood (paint paddle) about 5" long.

Leave your stone on the dopstick.

1. To remove streaks or lumps lay a piece of 320 on your stick. (Better yet, glue the sandpaper on the stick and use as a file.) Hang on to the paper and stick with one hand. Wet the stone. (You need a cup or small container of water.) Dip your stone in water and precisely and carefully sand off the high spots. Actually sand them below the surrounding surface.

2. Take the 320 paper in hand. Wet the stone. Sand the stone by turning [it] in the paper in the palm of your hand. With a bit of trial and error you can get a good contour.

3. Go to 400, 600, and finally 1200 in your hand. Be careful not to recreate the streaks, lumps, etc. By 1200 the stone should have almost a polished look.

4. Use a piece of leather to polish by hand. I have a piece of old leather from a dining room chair seat. Use the "inside" of the leather. Again, put the leather over your hand; put a dab of tin oxide on it. Wet your stone and rub it on the leather. As the leather dries you will feel the pulling action. Keep at it!! Obviously this is slower than a machine buff, but you will get good results.

4A. Alternatively you can try your powered leather disk with light pressure in #1 speed position with a little tin oxide and quite dry.



Cont. from SCFMS NEWSLETTER

BUYING JADE

What do you want? THE BEST!! You are going to spend a lot of time grinding and polishing and then putting your cab in a piece of fine jewelry. You want to be pleased and proud with the result. Therefore why spend time on a piece that you got for a "bargain" and still looks that way when you are finished.

What qualities do you want? Ideally you want:

1. Clean bright green color without disfiguring streaks or blotches of dark material. No muddiness, no grayness.
2. High degree of translucency.
3. No evidence of fractures.
4. No evidence of "crumbling or of directional weakness.
5. No evidence of hard streaks.

What price should you pay? Your dealer prices his jade based on his judgement of quality and rarity. If you are going to produce a few cabs, why buy a big block? Pay the premium for the best slab you can find.

How do you find that good slab? Look at the slab when it is dry, not when it is wet. Look at the slab with a strong incandescent light above and behind it (one with a hood or reflector).

(1) Translucency -- Depending on the strength of the light source, you can determine the relative translucency of different slabs. Hold the top edge of the slab on the edge of the reflector. Bring the bottom edge toward you so that you can see the range of translucency as the light penetrates into the slab. In some very translucent pieces the light will seem to go right through the width.

(2) Uniformity -- You should also note the variations in translucency. Your selection should be the one that is most uniform.

(3) Color -- Look both "through" and at the slab. Is the color a bright lively green? Or, is it muddy or gray?

(4) Structural weakness -- Look at the edge again. Are there little pieces broken out? Are there little cracks? How far into and/or through the slab do they extend?

(5) Surface indications -- Look directly at the surface. Is the sawed surface perfectly smooth (excluding any saw blade marks)? Are there any streaks or ridges? These could indicate hardness in streaks. Look at the surface with the light behind it. Do you detect any internal cracks? Do you see any light or dark streaks? Again these may indicate hardness or softness. □



ONCE UPON A TIME we had a 410-day year. Fossilized coral, skeletons of marine polyps, is now yielding valuable information on the history of the planets. Coral organisms grow in direct relation to the amount of light they receive, with more light giving more growth.

The growth varies according to the phases of the moon, since coral grows more rapidly on moonlit nights. As a result, coral contains both daily and yearly growth rings. Examining fossil coral sections from the Paleozoic Era (230-620 million years ago) geologists learned that the Earth had about 410 days per year at the time the coral was alive. This finding not only confirms that the rotation of the Earth is slowing down, but also establishes its deceleration rate. --From THE BURRO EXPRESS 3/95 via GEMS OF THE ROGUE 9/94 □

THE MINERAL MAGNETITE, used in compass needles, has been found in Monarch butterflies. This discovery may help explain the well-known yearly migration from North America to Mexico. --From QUARRY QUIPS E/95 via GEM TIME 11/94 and SCRIBE 1994. [Ed. note: SCRIBE is a special bulletin with interesting information as well as "do's and don't's" for editors. It is available by subscription. GB] □

SCIENTISTS TELL US that each half of the human brain controls the opposite side of our bodies. If that is true, then only left-handed people are in their right minds. --From QUARRY QUIPS 3/95 via THE GLACIAL DRIFTER 10/94 and SCRIBE, Winter 1994 □

NORTH DAKOTA ACADEMY OF SCIENCE ANNUAL MEETING

North Dakota Heritage Center

April 20 — 21, 1995

The North Dakota Geological Survey, as part of its observance of its Centennial Year, is hosting the 87th Annual Meeting of the North Dakota Academy of Science on April 20th and 21st. This will be only the third Academy of Science meeting to be held in Bismarck in recent years; earlier meetings were held here in 1982 and 1988. The Academy meetings will be held at the North Dakota Heritage Center, a particularly appropriate setting, especially in view of the fact that 1995 is also the State Historical Society's Centennial year and Survey geologists have worked closely with the Historical Society in developing geological exhibits in the Heritage Center.

A major part of the Academy of Science meeting this year will be a day-and-a-half symposium on North Dakota geology. Presentations by more than 30 geologists from around the State and elsewhere will elaborate the results of research on topics ranging from surface mapping, petroleum geology, paleontology, and environmental geology. The symposium will be held during the afternoon of April 20 (1:00 to 5:00 p.m.) and all day April 21 (8:00 a.m. to 5:00 p.m.)

NDGS geologist, John Hoganson will present the Annual Banquet talk, titled: "Sea lilies, dinosaurs, and woolly mammoths: the fossil record of prehistoric life in North Dakota" on the evening of April 20 at 8:00 p.m.. Dr. Hoganson's presentation will be in the Heritage Center auditorium following the Banquet. It will be open to the public without charge, although the Banquet itself requires pre-registration and payment of a \$10.00 fee.

The geology symposium will include a walking fieldtrip on Friday from 11:00 a.m. — 12:00 noon to look at the building stones used on the State Capitol grounds. The trip, which will also be open to the public, will be led by NDGS geologist Robert Biek, who wrote a guidebook to the monuments and building stones of the capitol grounds. The guidebook was published by the State Historical Society in March, 1995.



President Ray Olinger has just reported that an invitation has been extended to the Central Dakota Gem and Mineral Society to set up and man a booth during the meeting described above.

Please note that two of the sessions are free and open to the public and should be of interest to club members. These two sessions include the one at 8:00 p.m. at the Heritage Center, Bismarck, on Thursday, April 20, with Dr. John W. Hoganson as speaker; and the walking fieldtrip on Friday morning at 11:00 a.m. to 12:00 Noon on the State Capitol grounds to observe the stones used in monuments and buildings. The fieldtrip will be led by Robert F. Biek, author of a recently published guidebook on this topic. □