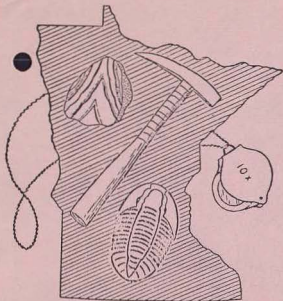


September 1970



Geological Society of Minnesota

NEWS



Geological Society of Minnesota

Robert V. Leacock, Editor
1235 Brighton Square
New Brighton, Minn. 55112

FIRST CLASS PAID



RETURN REQUESTED

TIME VALUE

Carlson, Dr. & Mrs. Bert
3034 - 46th Ave. S.
Minneapolis 55406

The GEOLOGICAL SOCIETY OF MINNESOTA is an amateur group that accepts Geology as an absorbing hobby. We solicit and welcome the help and direction of membership from professional ranks, but by and large our approach to the subject is that of the layman. Most of us are not true rockhounds, although we do collect minerals, rocks and fossils. Our main purpose is to promote interest in the study of Geology of the state of Minnesota.

OFFICERS

PRESIDENT	Sam Mayo Box 270, Route 6 Excelsior, Minn. 55331	474-4038
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MEMBERSHIP

TYPE OF MEMBERSHIP:

ADULT	\$ 7.00
HUSBUND & WIFE	\$10.00
STUDENT	\$ 2.00

MEMBERSHIP CHAIRMAN:

Miss Martha Peterson
3527 Pleasant Ave.
Minneapolis, Minn. 55408
Phone: 825-1147



Our Annual Picnic at Carver Park Reserve Nature Center was well attended.

After our picnic lunch we viewed a color film depicting Geology, plant life, habitats of birds and their young.

A hiking tour was guided by Naturalist Dale Rock who pointed out the many varieties of trees, birds and plants along the trail.

The recently constructed Swamp Walk was a new experience in observing wild life.

After the hike many members took a self-guided auto tour from the Nature Center to the Overlook at Parley Lake to a gravel pit at Carver and on to Chaska.

This tour covered the Wisconsin Glacial Period featuring the Superior Lobe, also the Des Moines Lobe and including many features of the River Warren's Valley.

The Nature Center has a comprehensive Natural History Library which includes many books on Geology.

REDWOOD FALLS TRIP

SUNDAY, SEPTEMBER 13th.

Bus leaves at 8:00 a.m. from St. Paul Bus Depot and 8:30 a.m. from Mpls. Bus Depot.

Group will study granite, gneiss and quarries; weathered granite and kaolin in Alexander Ramsey Park; a cretaceous clay pit; conglomerate in quartzite matrix.

Make reservations with:
Charles Howard
2409 West 52 St.
Minneapolis, Minn. 55410

MINERAL SHOW

Bloomington Mineral Club
presents
The Eighth Annual Free

GEM AND MINERAL SHOW

Minerals-Crystals-Agates
Fossils-Hand Crafted Jewelry
Hobby Equipment

SOUTHDALE GARDEN COURT
West 66th and France Ave.So
Minneapolis

SAT. SEPT. 19, 9:30 a.m.-6 pm
SUN. SEPT. 20 1:00 p.m.-6 pm

Board of Directors

The BOARD OF DIRECTORS will meet Monday, September 14, 7:30 p.m. at Minneapolis General Hospital.

CLUB NOTES

Included with this issue of the NEWSLETTER is a schedule of our lecture series 1970-71.

We feel this is a wonderful chance to learn more about Geology - for some it will be a refresher course. Note that these lectures are in series so you will not want to miss any of them.

Our MEMBERSHIP CHAIRMAN, Martha Peterson, has given us membership blanks. Let's all pay up our dues to help Martha close the Books.

ADDRESS CORRECTIONS:

Mr. & Mrs. L.W.King
1879 Feronia Ave.
St. Paul, Minn. 55104

Cecelia Weaver
203-W. 5th St.
Mankato, Minn. 56001

Mrs. Goldie Johnson
3132 Girard Ave. So.
Minneapolis, Minn. 55408

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Dorothy V. Mattison
15 Langford Park
St. Paul, Minn. 55108

Elsie R. Hinchley
514 Humboldt Ave.
St. Paul, Minn. 55107
Apt. 323

Mrs. George R. Becker
508 Humboldt Ave.
St. Paul, Minn. 55107
Apt 8301

Mr. & Mrs. Roger Trutna
215 E. 1950 South
Bountiful, Utah 84010
801-295-9559

RECENT PUBLICATIONS

GEOLOGY SIMPLIFIED

By Richard M. Pearl. 1968.
Barnes & Noble, New York
89 pages. Illustrated.
Paperbound \$2.25

Designed primarily as a form of quick review for students, however, any hobbyist can use it as a geological reference.

CHAINS OF FIRE --

The Story of Volcanoes

By Kent H. Wilcoxson. 1966.
Chilton Brothers, Philadelphia
Clothbound \$6.95

A fascinating book about vulcanism written in an interesting style that is easily understood by those without a scientific background. Gives a highly accurate account of vulcanism and volcanic upheavels. It probes the reasons why agate nodules might form in gas filled pockets and also the mysteries concerning the formation of geodes, limb casts, petrified wood and other cutting materials sought by the lapidary hobbyist.

DEPTHS OF THE EARTH:

Caves and Caverns of the U.S.

By William Halliday. 1966.
Harper & Row, New York
398 pages. Illustrated.
Clothbound \$7.50

Authored by the director of the Western Speleological Survey, the book is an account of the adventure and history of cave exploration from the time of George Washington to the present time. Also includes plenty of practical advice for cave explorers.



BLACK HILLS



Professor Richard Bartel's Geology class (members of the Geological Society of Minn.) just returned from a field trip to the BLACK HILLS.

Meeting in the Badlands Thursday afternoon, Bart proceeded to call our attention to the Brule and Sharps Formation, along with the faults, banded Buttes, Clastic Dikes and the Pierre Shale on the way to the BLACK HILLS.

Upon entering the BLACK HILLS, we were introduced to the hogbacks which surround the HILLS and always dip to the East. Composed of weathered clays and sandstones the hogbacks are part of the Dakota formation.

That evening we were fortunate to find a secluded campsite where we enjoyed the warmth and friendship of a large campfire before turning into our sleeping bags for the night.

FRIDAY we stopped at the Stratobowl and Bart pointed out formation dips and faults where now a beautiful stream runs. We collected Pahasapa Limestone and were told that all the caves in the BLACK HILLS are in this limestone.

Next we stopped at a road out and found Minnekahta Limestone with Calcite Crystals. Other stops yielded such rocks and minerals as Banded Gypsum, Deadwood Sandstone with ripple marks, Limonite, Hematite, Iron Concretions, Granite, Clastic Clay, Slate and others.

SATURDAY, turning our attention to the southern HILLS, we began the day by collecting Garnets found in Mica Schists. An old abandoned mine reached after hiking thru the darkened mine tunnel yielded 1.6 billion-year-old Pegmatites beyond description. Specimens of Rose Quartz (South Dakota's State Mineral), Beryl, Spodumene, Microcline, Albite, Apatite, Muscovite, Biotite, Tourmaline, Pyro-lusite with Dendrites in them and other minerals were collected.

We climbed to the rim of an old volcano choosing Obsidian, Rhyolite, Tuff, sedimentary Ash and Bombs as we went. The following stop along the route proved to be most interesting since it was Bart's marble quarry called the "Drambuie Mine".

As we viewed the carved faces (60 ft. long) of the famous Mt. Rushmore, we learned that Rushmore Granite is said to weather only about one inch each 10,000 years.

Our last stop Saturday nite before heading home was to view a large fold just outside Hill City.

Few of us realize that the BLACK HILLS are the oldest mountains on the Continent and that Harney Peak is the highest peak between the Rockies and the Alps.

WE WILL RETURN



TABLET INSCRIPTION #5

Geology of Minnesota

LAKE PEPIN

* * * * *

Lake Pepin occupies the Mississippi Valley above this point for a distance of 22 miles. The lake is formed by the delta of the Chippewa River which enters the Mississippi directly east of this site.

The Chippewa, a relatively small river, has a much steeper gradient than that of the Mississippi. It was therefore able to transport more sand and coarser gravel than the master stream could remove. In consequence the Mississippi was dammed back in the gorge to form Lake Pepin.

The surface of the lake is 664 feet above sea level and 450 feet below the top of the bluffs which line its shores.

The sand and limestone walls of the gorge are composed of material deposited in Cambrian and Ordovician seas when the continent was submerged some 400 million years ago.

The bottom of the gorge is 150 feet below the lake surface having been filled to its present elevation as the carrying power of the river decreased.

MONDAY, OCTOBER 26th is the deadline for news material to be printed in Nov.-Dec. GSM NEWSLETTER.

Address all mail to:
Robert Leacock, Editor
1235 Brighton Square
New Brighton, Minn. 55112

TABLET INSCRIPTION #6

Geology of Minnesota

ELK RIVER REGION

* * * * *

The glaciers which covered Minnesota at intervals during the last million years brought with them from Canada thousands of cubic miles of rock debris. The sand, gravel, and granite boulders came chiefly from Ontario to the northeast, the limestone and clay from Manitoba to the northwest. When the ice melted, the transported material - Glacial Drift - was dropped to form a mantle of soil over the glaciated area. It is estimated that the fertility of the soil in Minnesota has been increased 30 per cent by glacial action. The glacial deposits in the Elk River Region vary in fertility depending upon the proportions of sand, clay and limestone.

The melt waters from the glaciers tended to collect in streams which flowed away from the ice in a radiating pattern. The Mississippi River at this point is such a stream started during the last or Wisconsin stage of glaciation.

welcome NEW MEMBERS:

Mr. & Mrs. Jim Fisher
4344 Upton Ave. No.
Minneapolis, Minn. 55412
521-7058

Mr. & Mrs. Robert D. Hansen
1913 Sheldon No.
St. Paul, Minn. 55113
645-6315

Mr. & Mrs. R.H. Guenther
R.R. 4, Box 597
Forest Lake, Minn. 55025
464-4679