Central Dakota Gem and Mineral Society
Mrs. Blossomae Campbell, Editor
1134 North 28th Street
Bismarck, North Dakota 58501

DIGGINS FROM DAKOTA

CENTRAL DAKOTA GEM & MINERAL SOCIETY

AIM:
1. The study of Mineralogy and Geology.
2. To foster field trips to collect minerals, gems and fossils.
3. The improvement of its members in the art of cutting, polishing and mounting gem material.
4. To provide opportunity for the exchange, purchase and exhibition of specimens and material.

The Central Dakota Gem and Mineral Society is affiliated with:
The Rocky Mountain Federation of Mineralogical Societies
The American Federation of Mineralogical Societies

MEETINGS: First Sunday of each month in the Hospitality Room of Capital Electric Co-op Building on Highway 83 north of Bismarck. Meeting time is 7:30 P. M.

VISITORS ARE ALWAYS WELCOME.

OFFICERS:

President	John Dosch	1425 N. 15th St., Bismarck	255-1924
Vice-President	Earle Campbell	1134 N. 28th St., Bismarck	255-3658
Secretary	Stanley Fairaizl	205 6th Ave. NW, Mandan	663-9712
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Field Trip Chairman	Ronnie Stelter	Wilton	734-6483
Librarian	Ewald Muggli	Glen Ullin	348-3897
Nominations	Vernie Peterson	615 N. 12th St., Bismarck	223-9179
Refreshments	Mrs. Albert Anderson	RR. #2, Bismarck	673-4585
Annual Show	Gordon Bell	515 N. 22nd St., Bismarck	223-5146
Historian	Mrs. Ted Giese	New Salem	843-7005
Official Greeter	Dick Bergantine	703 12th Ave. NW, Mandan	663-3419
Editor	Mrs. Earle Campbell	1134 N. 28th St., Bismarck	255-3658
Pebble Pup Leader	Harold Brady	1401 Sunny Rd., Mandan	663-5904

All contributions should be mailed to the editor, Mrs. Earle Campbell, 1134 N. 28th Bismarck. Please have them in by the tenth of each month.

Other editors may reprint any article from this Bulletin. A credit line would be appreciated.

Dear Mr. Dosch,

Our many thanks for the cash donation your organization gave the ARC so that we can better carry on our work with the retarded.

The Boy Scout Troop will benefit from your help as will the future teen canteen for the Junior and Senior High School age group.

Thank you,

Marge Hartwick

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SHOW DATES CONFIRMED

Dr. Bell announced at the March meeting that the Bismarck show will be September 8 in the Kirkwood Mall. The Mandan show will be one week later, September 15.

It has been decided that this year members will be allowed to sell at these shows. Although September seems a long way off, it is only five months until then. Those of you who will be making jewelry, table tops, lamp shades, clocks, and other articles to sell should start planning now.

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NOTES FROM THE MARCH MEETING

There wasn't too much business for the March meeting. The main item discussed was the show. Ten percent of all sales at the show will be donated to the club.

Mae Fairaizl won the door prize.

Hostesses for the April meeting will be Bonnie Hilken and Vina Anderson.

The program for April will be "Geology from a Car Window". DeLane Meier had tried to get this slide program for an earlier meeting but it was already reserved.

Members voted to give honorary memberships to guest speakers. These new members will have the same priveleges as paid up members. Add these names to your list of members.

Mr. & Mrs. Liess Vantine
913 N. 10th
Bismarck, N. D. 58501
255-2358

Joe and Marlys DuChene
Fort Yates, N. D. 58538
854-2870

LeRoy & Louise Walker
710 North 7
Bismarck, N. D. 58501
223-6934

Also add these names:

David & Ruby Jensen
Hazen, N. D. 58545
748-2061

Emil & Bonnie Hilken
Wilton, N. D. 58579
734-6411

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The richest man is not the one who still has thefirst dollar he ever earned, but it is the man who still has his first friend.

THIS 'n THAT

Ole and Mabel Stavem returned Sunday, March 18, from a 2½ month trip south and west. They toured the Warps Museum at Minden, Nebraska, and were overnight guests at the home of Mr. and Mrs. Roy White at Vermillion, Kansas.

They spent two months at Apache Junction, Arizona, where they enjoyed sight seeing, playing golf, picking beautiful rocks, and visiting friends from this area. While there, they attended the North Dakota picnic held March 4.

Emil and Bonnie Hilken have also retuned to Wilton after spending the winter in Arizona. Emil was wearing some eye-catching jewelry of fire agate and silver at the April meeting.

Kathryn and Ed Muggli are spending some time in Arizona doing some rock hunting. At last report, they were at Apache Junction, Arizona, and were having some success in rock hunting, especially Apache tears. They left the first part of March. On the way south, they ran into a sandstorm between Pueblo and Walmsberg, Colorado. With two other campers they stayed in a sheltered area until it was all over. The camper had sand in every corner, giving them quite a job getting it all cleaned out. Other than that, they are enjoying themselves.

The club's slide program, "Jewels and Gems of North Dakota" was shown to the eighth grade class at St. Anne's by Earle Campbell. Sister Mary Bernard is the instructor. Kathy Dosch is a member of the class.

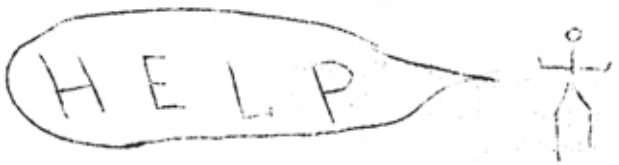
Vernie Peterson called to report some good news and some bad news. The good news - on a trip to a quarry just outside of Bismarck on a recent Sunday, Vernie found a very large piece of teredo wood. He said the worms were as large as his finger. The bad news - on the same Sunday, the family was visiting a farm when a frolicsome horse kicked almost-three-year-old Vernie II (Vernie and Betty's grandson) in the head. After a week's stay in the hospital, the youngster is now recuperating at home.

PEBBLE PUPS

We talked about how Old Faithful Geyser was formed, and learned that geyserite is the limestone around the top of the geyser.

Members present were Carol and Gary Muggli, Lee and DeWitt Meier, Pat Brady, Paul, Tom, Jim, Andy, Kathy and Mary Ann Dosch.

Mary Ann Dosch



VERNA GIESE - HISTORIAN Verna is compiling a scrapbook for our organization. She is in need of articles, clippings, programs, etc. of shows, events and happenings that our organization has been involved in. If you have any of these please contact Verna, Phone 843-7005, or write to her at New Salem. If you have an article but would like to keep it, contact John Dosch. He will arrange to have a copy made of it to place in the scrapbook.

Here beginneth the historical geology lesson! Even if you are not particularly interested in fossils, or how they got there, you will find this article fascinating --

THE PALEOZOIC ERA

The start of Paleozoic time marks the beginning of the first accurate record in geological history.....The Paleozoic Era, which began more than 600 million years ago, has been divided into seven periods of geologic time. These periods varied in duration, some lasting as little as 20 million years, other lasting as long as 100 million years. The periods are separated on the basis of relatively brief periods of broad continental uplift. During these times, the seas were drained from the continents. These periods of uplift were followed by times of submergence, when some parts of the continents were covered by the seas and were receiving sediments. Let us briefly review the Paleozoic Periods and learn something of the physical history, climate, life forms and economic products of each.

"GOD ALSO SAID: LET THE WATERS THAT ARE UNDER THE HEAVEN BE GATHERED TOGETHER INTO ONE PLACE: AND LET THE DRY LAND APPEAR. AND IT WAS SO DONE.

AND GOD CALLED THE DRY LAND EARTH: AND THE GATHERING TOGETHER OF THE WATERS HE CALLED SEAS. AND GOD SAW THAT IT WAS GOOD. AND HE SAID: LET THE EARTH BRING FORTH THE GREEN HERB, AND SUCH AS MAY SEED, AND THE FRUIT TREE YEILDING FRUIT AFTER ITS KIND, WHICH MAY HAVE SEED IN ITSELF UPON THE EARTH. AND IT WAS SO DONE... AND THE EVENING AND THE MORNING WERE THE THIRD DAY."

The Cambrian, oldest Period of the Paleozoic Era, is the earliest Period in geologic history in which we find an abundance of well-preserved fossils. The Period takes its name from Cambria, the Latin word for Wales. It was in Wales that these rocks were first studied.

During this Period, which lasted about 100 million years, about 30% of the North American continent was submerged. These seas deposited great thicknesses of limestone, shale, sandstone and conglomerate which are widely distributed over the entire country. The end of the Cambrian time was marked by continental uplift and withdrawal of the seas, and there was local mountain building in the form of the Green Mountain disturbance. The activity was confined largely to New England and the east coast of Canada.

Cambrian life was dominated by trilobites and inarticulate brachiopods. Trilobites were particularly abundant, forming as much as 60% of the total fauna. There were also such invertebrates as protozoans, sponges, snails, worms and cystoids. There is no record of land or fresh-water life, nor any evidence of the remains of vertebrates.

We can only guess about the climate of the Cambrian Period. However, apparently the climate zones were not as clearly defined as they are today, and the overall climate was probably mild and equable.

From the standpoint of economic resources, the Cambrian rocks are of little value compared with other geologic systems. Building stone, primarily marble and slate, plus some gold and lead deposits, are about all worth mentioning.

The Ordovician Period, which lasted about 75 million years, was named for the Ordovices, an ancient Celtic tribe which inhabited Wales. There was great marine flooding, and during part of this Period about 70% of North America was covered by warm, shallow Ordovician seas. It produced thick beds of shale and limestone, and many of these marine formations are richly fossiliferous.

(Continued on next page)

THE PALEOZOIC ERA (cont.)

Toward the latter part of the Period, eastern North America was uplifted along a line extending from New Jersey to Newfoundland. This mountain-building movement is known as the Taconic disturbance, and marks the end of Ordovician time.

There is evidence that the seas must have been teeming with seaweeds, protozoans, corals, gastropods, pelecypods, cephalopods, trilobites, cystoids, blastoids, crinoids, and graptolites. Most important was the appearance of the first vertebrates. These were small, primitive, armoured fishes whose remains consist of fragmental bony plates and scales. These primitive backboned animals are called ostracoderms, and were found mostly in the Rocky Mountain area.

Mineral resources from Ordovician strata include petroleum, building stone, glass sand, and ores of iron, lead and zinc.

The Silurian Period also got its name from an ancient Celtic tribe (the Silures) and also was first studied in Wales. This Period lasted only about 20 million years. Silurian rocks are widespread in the eastern part of the United States. Lockport dolomite of Middle Silurian age forms the cap rock of Niagara Falls. It was during this period, too, that the salt and gypsum beds were laid down in Ontario, New York, Michigan, Pennslyvania and Ohio.

Trilobites reached their peak and were diminishing. Euryterids, or sea-scorpians, were the largest animals of this time. The earliest known land plants and animals appeared during the Silurian. The early land animals were the scorpions and millipedes.

Economic products include iron ore, salt, gypsum and petroleum.

The Devonian Period was named from Devonshire, England, where the rocks of this system were first studied. This Period lasted about 60 million years, and was a time of great change for both plant and animal life.

About 40% of central North America was covered by the sea. During the time of the Acadian disturbance the Appalachian region was formed. Devonian life was characterized by expansion of the land plants, especially seed ferns, scale trees and ferns. The seed plants also made their initial appearance in this Period.

The invertebrates included reef-building corals, sponges, echinoderms (especially crinoids), pelecypods and gatropods. Brachiopods were dominant, but trilobites were dying out. The first amminoids appeared. Vertebrates underwent great development, and both fresh-water and marine fishes were abundant. The true shark appeared, and also the first tetrapod (four-footed vertebrate), a primitive amphibian.

Economic products of Devonian rocks are glass sand, building stone, lime and cement, abrasives, salt, and the first oil-producing formations.

"AND GOD MADE TWO GREAT LIGHTS: A GREATER LIGHT TO RULE THE DAY: AND A LESSER LIGHT TO RULE THE NIGHT: AND THE STARS. AND HE SET THEM IN THE FIRMAMENT OF HEAVEN TO SHINE UPON THE EARTH. AND TO RULE THE DAY AND THE NIGHT, AND TO DIVIDE THE LIGHT AND THE DARKNESS. AND GOD SAW THAT IT WAS GOOD. AND THE EVENING AND MORNING WERE THE FOURTH DAY."

The Mississippian is not recognized as a separate Period in Europe, but is combined with the Pennsylvanian to form the Carboniferous Period. For this reason the Mississippian Period has also been referred to as the Lower Caroniferous. During this time most of the Mississippi Valley was covered by seas. Present also were warm, moist swamplands, supporting a variety of land plants, insects and amphibians.

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THE PALEOZOIC ERA (cont.)

There was little mountain-building in North America, but orogenic (mountain formation) movements were pronounced in Europe, forming the Variscan Mountains across England, France and Germany.

Climates were essentially warm and humid on land, and widespread seas gave rise to warm temperate climates in much of the world. During the 35 million years comprising the Mississippian Period, there was abundant life on land and in the seas. Distinctive Mississippian invertebrates were Archimedes, and Pentremites. On land there were dense swamp-forests, primitive insects and amphibians.

Mississippian economic products include Bedford limestone, oil and gas, zinc and lead ores, salt, and minor amounts of coal.

The Pennsylvanian-Upper Carboniferous Period lasted about 30 million years. It was named for the State of Pennsylvania where rocks of this age are well exposed.

Its warm mois, swampy lowlands produced great forests of ferns, scale trees, giant rushes, and conifers. The remains of these palnts form the bulk of the coal taken from West Virginia, Ohio, Indiana, Illinois and Pennsylvania. The vegetation suggests that the climate was tropical to sub-tropical in many areas, although the mountain areas were cold.

Marine life was much the same as previously mentioned, as well as the plant life. The forests were inhabited by a myriad of insects which included cockroaches as much as four inches long, and dragonfly-like insects witha wingspread of twenty-nine inches! (That puff of dust marked a vanishing Editor). The most noteworthy event among the animals was the appearance of the first reptile.

Economic resources are numerous, but this system is best known for its vast coal deposits. Others include limestones and clays used in cement and ceramics.

The Permian, named from the province of Perm in eastern Russia, is the last of the Paleozoic Periods. It lasted about 50 million years. Permian climates, geography, fuana and flora were considerably different from those of preceding Periods.

Permian rocks have provided our nation with some of its most scenic areas. Such attractions as White Sands National Monument, Carlsbad Caverns, the Grand Canyon, Monument Valley, and the Garden of the Gods are totally or partially Permian in age.

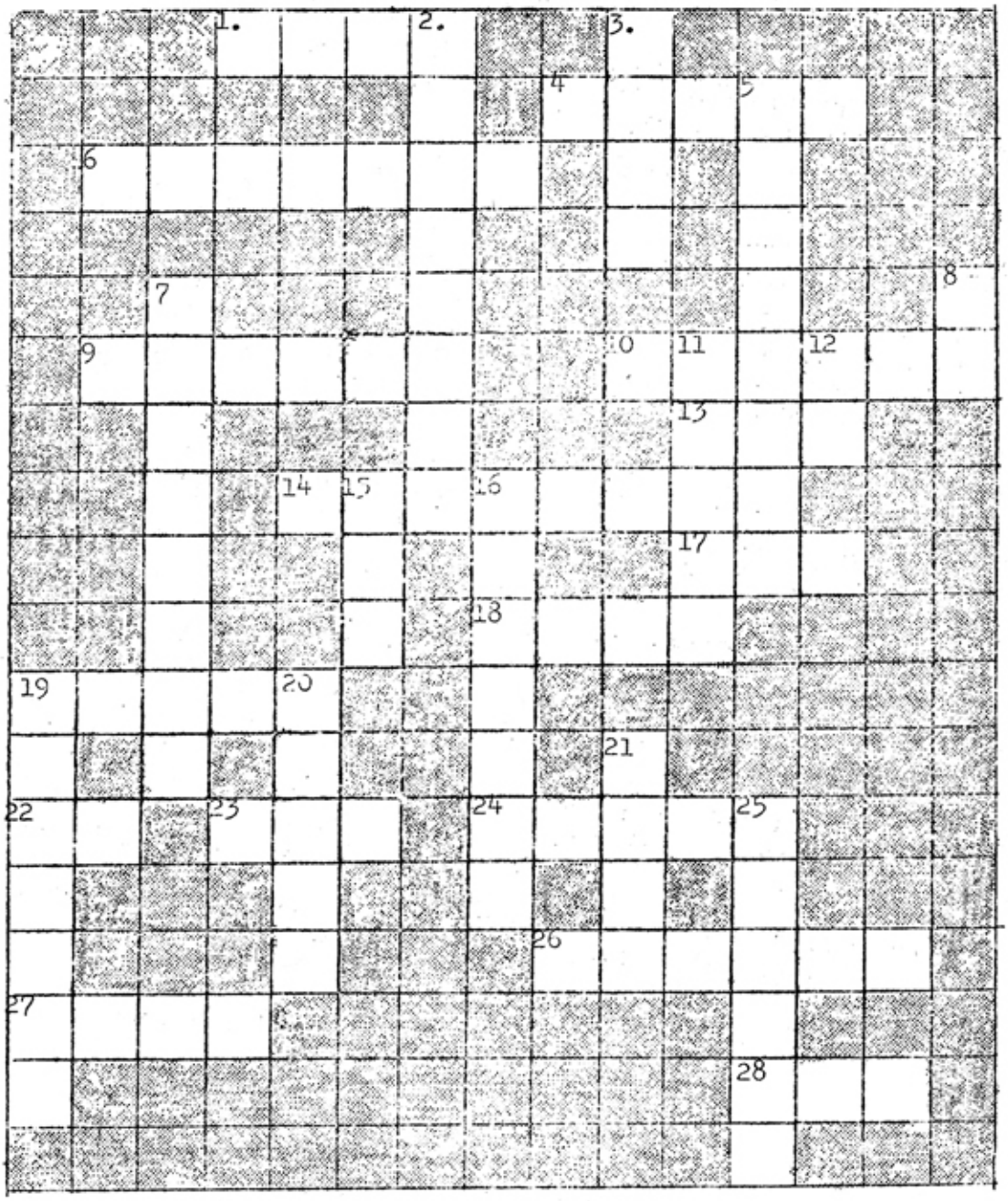
(Reprinted form The Rock Vein, The Winnepeg Rock & Mineral Club, Winnepeg, Canada, Mrs. M. Bowman, editor)

Hearts like doors will ope' with ease
To very, very little keys
And don't forget that two of these
Are "Thank you, sir"
And "If you please".

AFMS Newsletter

NOTICE!!!!

This is the last issue that will be mailed to those readers who are not paid-up members or editors of exchange bulletins. To continue receiving this brilliant (?) literary achievement it will cost $1.50 a year. Contact either Bill Buresh, treasurer, or Blossomae Campbell, editor.



ACROSS

1. Softest mineral on Mohs scale.
4. Coating of very small crystals.
6. Hardest mineral on Mohs scale.
9. Famous African source of minerals.
10. Black Tourmaline.
13. Rockhounds sometimes _____ a finger when chipping a specimen.
14. Double terminated quartz crystal from a county in New York.
17. _____ beds or red sedimentary rock strata.
18. Horizontal passage from the surface in a mine.
19. A rounded concretionary rock mass, sometimes hollow.
22. Block lava
23. A cylindrical ore body.
24. #8 on the Mohs scale.
26. A watery mixture of grit.

27. Rock composed of $CaCO_3$ or SiO_2 deposited from solution from springs.
28. Mineral occuring in sufficient quantity and containing enough metal to permit its extraction and recovery at a profit.

DOWN

2. An ore of mercury.
3. _____ or ____rock= any of various dark colored fine-grained igneous rock.
5. # 9 on the Mohs scale.
7. A fibrous mineral used in fire-proofing.
8. Abbreviation for crystal.
11. Fine-grained variety of quartz which grades into flint.
12. Abbreviation for an old-timer.
15. Paleozoic
16. Mineral exhibiting a hardness of 5 in one direction and 7 in another.
19. Building stone composed of quartz, feldspar, and mica and horneblende.
20. Miocene _____
21. Silica mineral with hardness of 5-6
25. A gemstone sometimes mistaken for a diamond.

(Composed by Andrew Poole, member of Lowcountry Gem & Mineral Society, Charleston, South Carolina.)

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ARE ALL DIAMONDS A GIRL'S BEST FR END?????

Girls, take the test below. If your boy friend has given you one of the "diamonds" listed below, do you know what you really have received?

1. "Alpine Diamond"
2. "Herkimer Diamond"
3. "Black Diamond"
4. "Arkansas Diamond"
5. "Hawaiin Diamond"
6. "Matura Diamond"

If you have to take another look at your diamond, perhaps you had better take another look at your boyfriend.

Answers

1. Pyrite
2. Quartz
3. Hematite
4. Quartz
5. Olivine
6. Zircon

---Florence Richardson
Lowcountry Gem & Mineral Society

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I have rocks in the kitchen
Rocks in the shed,
And a few of the surplus
Under the bed.

Could anyone doubt
If anything's said
The truth will come out----
I have rocks in my head!!!

via Border Gem Chatter
Flint Rock & Gem Club

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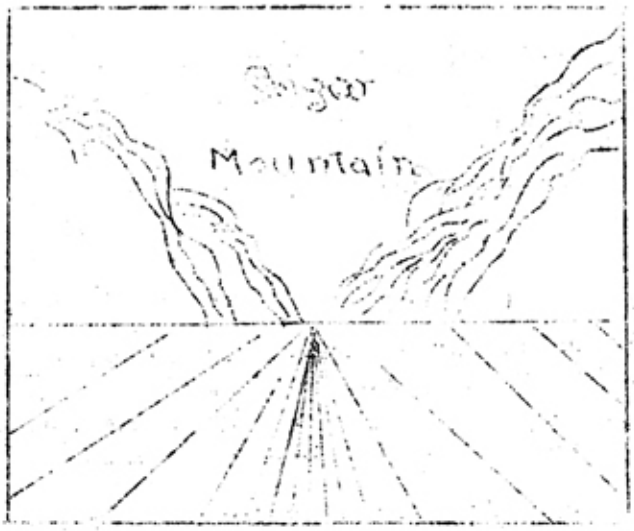
He who sows courtesy reaps friendship, and he who plants kindness gathers love.

Richard Brooks



THEY SHOULD PUT ME IN JAIL

by David Michaels

It is not often that an individual destroys a work of art millions of years old in fifteen seconds with a hammer. But it was in that position that I found myself last Sunday.

The scene of the crime was a little known geologic area called the Genessee Mountain dike. A dike is an intrusion in existing rock by igneous material, that is, molten stuff that fills cracks and fissures. So that this does not fly off into technicalities, let it suffice to say that the Genessee Mountain dike is the home of crystals.

To this crystal palace I went, hammer and chisels in hand, searching for garnets. The logical place to start was at the roadcut just east of the Texas Barbecue on old Highway 40.

As any rockhound knows, this area of Colorado is not the greatest for crystals or ideal mineral specimens except for the quartz crystals in back of Central or ore specimens.

So the prospect of garnets flourishing is very exciting and the dike is also the home of many crystal-like minerals. But you don't just pick them up off the ground. It takes some work. The last time I had really practiced at swinging my hammer last fall out by Buena Vista where, I had been told, was some fine Topaz. Unfortunately, I must have chipped away a ton of rock without finding anything bigger than a pinpoint.

Well, anyway, there I was, hanging on the side of the roadcut on Sunday afternoon with cars buzzing below me at 60 miles an hour, looking for crystals. I worked a seam for about an hour extracting grossularite garnet (the kind that's good for nothing) and having whacked my hand several times with the hammer, I was getting discouraged. From where I was the dike went into private property in both directions and since it was getting late to drive around, I figured I'd keep trying.

Another seam and another hour and nothing more than rock garbage. Those before me, and they were many, had chopped, perhaps unconsciously, a set of steps in the third area I tried. It was clink, clink for a while and lo and behold! right at the border of the seam was a grainy red side of a crystal, the sight of which almost made me lose my grip. Two facets were visible, each about two inches across.

(continued on next page)

It was an incredibly beautiful thing, this crystal; they say that crystals are the closest thing to life, all they lack are amino acids.

And it had been that beautiful for thousands of years and it had never seen the sunlight. Or shall I say the sunlight and the garnet had never worked together. Carefully I chipped away and pulled away the looser material and had another incredible rush. The red garnet looked like a three dimensional stop sign and below it, attached to the same matrix, was a long green crystal pointing to it. The balance in that miniature landscape was a perfect Van Gogh. Just staring at the red and green in the sunlight, the crystals made their own little universe.

It was then that I felt like a thief, stealing the little treasure, but my 20th century mind intervened and I kept chipping, very slowly.

I had been working at getting the crystals out for about 30 minutes when I missed, sending the chisel right into the center of the red crystal, smashing it to pieces and somehow managing to knock the head off the green crystal.

I looked at my destruction. It reminded me of a time in Brooklyn when I found a cream puff lying on a dirty sidewalk.....

(Reprinted by special permission from Front Range Journal, Idaho Springs, Colo. David Michaels, Editor.)

Submitted by Bob Randall

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EVERYDAY THANKSGIVING

Even though I clutch my blanket and growl when the alram rings each morning,
Thank you, Lord, that I can hear.
There are those who are deaf.
Even though I keep my eyes tightly closed against the morning lights as long as possible,
Thanky you, Lord, that I can see.
There are many who are blind.
Even though I huddle in my bed and put off the physical effort of rising,
Thank you, Lord that I have the strength to rise.
There are many who are bedfast.
Even though the first hour of my day is hectic, when socks are lost, toast is burned, tempers are short,
Thank you, Lord, for my family.
There are many who are lonely.
Even though our breakfast table never looks like the pictures in the ladies' magazines, and the menu is at times unbalanced,
Thank you, Lord, for the food we have.
There are many who are hungry.
Even though the routine of my job is often monotonous,
Thank you, Lord, for the opportunity to work.
There are many who have no work.
Even though I grumble and bemoan my fate from day to day, and wish my modest circumstances were not quite so modest,
Thank you, Lord, for the gift of life.

---Author Unknown

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There is a petrified forest in Flora, Mississippi. It is the only one in the eastern part of the United States.

AFMS Newsletter