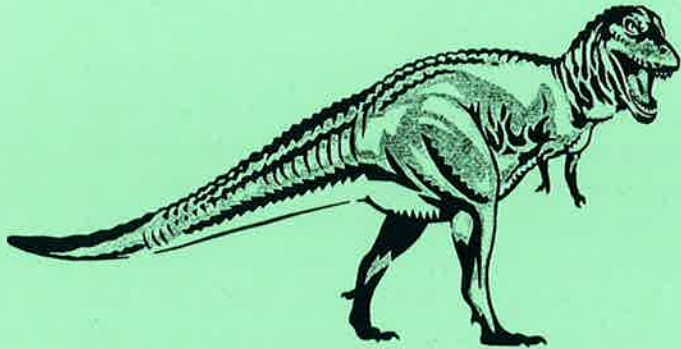


THE ROCKFINDER

Michiana Gem & Mineral Society
Tom Noe, Editor
305 Napoleon Blvd.
South Bend, IN 46617



THE ROCKFINDER

MAY, 2000

MICHIANA GEM & MINERAL SOCIETY

2000 BOARD OF DIRECTORS

President: Margaret Heinek 654-3673
 Vice-Pres.: Don Church 616-651-7616
 Secretary: Gladys Pacholke 233-6818
 Treasurer: Bob Heinek 654-3673
 Liaison: David Peltz 616-683-4088
 Past Pres.: Jim Russell 289-7446

The purpose of the Michiana Gem & Mineral Society is to promote the study and enjoyment of the earth sciences and the lapidary arts, and to share lapidary knowledge and techniques.

General meetings are held the fourth Sunday of each month, 2:00 PM, EST, at Our Redeemer Lutheran Church, 805 S. 29th St., South Bend, IN. Regular exceptions include May (third Sunday), July (no meeting), August (club picnic) and the November/December meeting and Christmas party. Board meetings are held before the general meetings. The annual club show is Labor Day weekend.



 Yearly Membership Dues (Payable by January 1)

_____ Individual \$10.00 per year
 _____ Family \$15.00 per year
 _____ Junior \$1.00 per year
 _____ Subscriber \$7.50 per year

Please indicate areas of special interest.

General Geology _____ Beads _____
 Gems & Minerals _____ Fossils _____
 Cabochons _____ Field Trips _____
 Faceting _____ Crystals _____
 Carving _____ Micromounts _____
 Other _____ Jewelry Making _____

Name _____

Street _____

City, ST., Zip _____

Please send your dues and this form to
 Michiana Gem & Mineral Society
 c/o Margaret Heinek

7091 E. East Park Lane, New Carlisle, IN 46552

HEADS OF COMMITTEES

Programs Don Church 616-651-7616
 Hospitality Pat McLaughlin 259-1501
 Educational Emily Johnson
 Librarian Diane Gram 272-6885
 Historian Ed Miller 498-6513
 Sunshine Sally Peltz 616 683-4088
 Publicity Phyllis Luckert 282-1354
 Field Trips Kathy Miller 291-0332
 Membership All Members

The Michiana Gem & Mineral Society, a not-for-profit organization, is affiliated with the Midwest Federation of Mineralogical Societies and with the American Federation of Mineralogical Societies.

The Rockfinder is published monthly except July and August. Editor, Tom Noe, 305 Napoleon Blvd., South Bend, IN 46617 (ph. 289-2028). Co-editor, Herb Luckert, 221 Marquette Ave., South Bend, IN 46617 (ph. 282-1354). Reporters, Bob Heinek, Herb Luckert, club members.

Permission is hereby granted to reprint any original *Rockfinder* articles, as long as recognition is given along with the reprint.

Additional names:

Name _____
 Birthday _____

Name _____
 Birthday _____

Name _____
 Birthday _____

Name _____
 Birthday _____

Date of Wedding Anniversary _____

Phone _____

PLEASE READ AND SIGN THIS SECTION:

With my signature I hereby release the Michiana Gem and Mineral Society, Inc., and its individual members and the owners of any premises upon which I enter under permit granted to the society, absolutely free of any liability whatsoever, to my person or my property, and further I will respect the equipment and property of the aforesaid owners.

Signed _____ Date _____

THE ROCKFINDER

Newsletter of the Michiana Gem & Mineral Society

Volume 40, Number 5

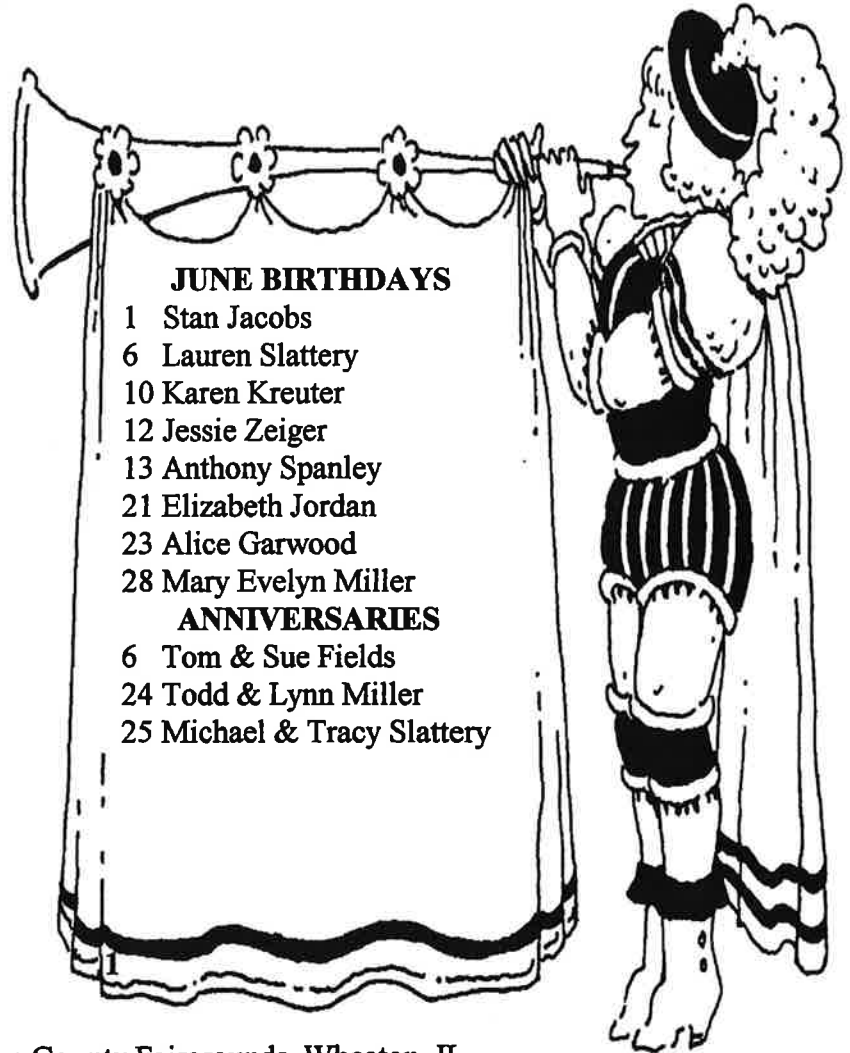
May, 2000

Meeting: Sunday, May 21, 2000
Doors open at 1:30 p.m.
Meeting starts at 2:00 p.m.
Guests are always welcome.

Place: Our Redeemer Lutheran Church
805 S. 29th St. (29th & Wall)
South Bend, IN
**THE MEETING WILL BE IN
AN UPSTAIRS ROOM THIS MONTH.**

Program: The program will be on mining
and will include a film. Everyone is
invited to bring mining related items.

Hosts: Sally & David Peltz
Phyllis Luckert



JUNE BIRTHDAYS

- 1 Stan Jacobs
- 6 Lauren Slattery
- 10 Karen Kreuter
- 12 Jessie Zeiger
- 13 Anthony Spanley
- 21 Elizabeth Jordan
- 23 Alice Garwood
- 28 Mary Evelyn Miller

ANNIVERSARIES

- 6 Tom & Sue Fields
- 24 Todd & Lynn Miller
- 25 Michael & Tracy Slattery

UP AND COMING

May 27-29: Chicago Gems and Minerals, DuPage County Fairgrounds, Wheaton, IL.

June 2-4: Dearborn Club's southeastern Michigan gem & mineral show, Allen Park Civic Arena, 15800 White, Allen Park, MI.

June 2-3: Southeastern Michigan Gem & Mineral Show, Allen Park Civic Arena, Allen Park, MI.

June 17-18: Michigan Geology & Gemcraft Society, MGAGS rockhound seminar at Roscommon Middle School, Roscommon, MI.

June 23-25: Gem, mineral, fossil show & swap, Bloomington, IN, the Lawrence County Rock Club's "Bloomington Swap" (10-7, 8-7 & 8-4)

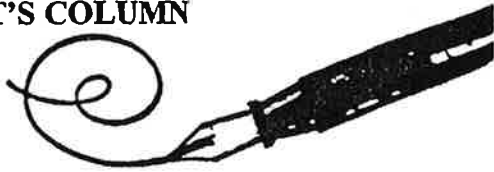
July 28-30: Richland Lithic and Lapidary Society, Kingwood Center, Mansfield, OH.

August 18-20: Midwest Federation show and convention, St. Louis, MO.

August 27: Grand Old Picnic of the Michiana Gem & Mineral Society, Don & Yvonne Church's house, Sturgis, MI.

September 1-3: Michiana Gem & Mineral Society Show, Century Center, South Bend, IN.

MARGARET'S COLUMN



If you missed the trip to Notre Dame on April 30, you missed a beautiful day. The weather was ideal—no rain, sunny and not too hot. We had quite a few attend, and most of us also visited the orchid show either before or after viewing the displays. We have to thank Sam Shapiro for making the arrangements (but the young lady failed to show up to give us the tour). I know Sam felt bad about it, but it was such a lovely day, I can understand why she was a no-show. Sam explained the mural on the south side of the library. Thank you, Sam.

Don Church has a nice film program for our meeting this month. If you have items from mines, bring them for display. The displays always make the meeting interesting. This will be the last meeting until our picnic, but let's find someplace to go on a trip or tour for June. How about something in the area where we can find fossils or rocks? Does anyone know of a gravel pit or a construction area we might be able to get into safely? If so, bring your suggestions to the meeting.

Leo and Elma Heynessens will be leaving our area this month. We will sure miss them. The Michiana Society really owes them a big "THANK YOU" for all of the special donations for the Silent Auctions and door prizes over the last few years. They say they will be back in the area over the years, so we hope they will come see us. A great big THANK YOU from all of us, and good luck in your new adventure.

It appears several of our members are going out west the next two or three months, and they will be rock hunting. Bring back some good displays for the September show, and if you get something suitable for the Silent Auction bring it back. Some of us will have to wait until October to go west; we will be at the American Federation of Mineralogical Societies convention in Utah in October. I for one am looking forward to that show. Bob and Kathy Miller will be there also.

Kathy is being elected to the AFMS board, and Bob and I will be there to cheer her on.

I sincerely hope all of the mothers had a good Mother's Day, and we will see you at the meeting.

WILL YOU PAY TO PLAY?

Free access to public lands was once every citizen's birthright. Not any more. The U.S. Forest Service has started charging for access to wilderness areas. The so-called "Adventure Pass" is causing many people, including the government of California, to work toward eliminating the necessity to pay for entrance to our public lands. Due to decreased funding by the United States Congress, the Forest Service has decided to collect revenue directly from the public. For example, whenever someone wants to explore the backcountry of Los Padres National Forest, it will be necessary to pay either \$5 per day or \$30 per year for a permit. The Forest Service, however, received permission from Congress to control 80% of the collected fees. This portion will be allocated to the forest for which the Adventure Pass was purchased.

Thus, we can feel assured that our paid fees are being used for our nearby lands. Apparently, this move to collect access fees is not sufficient to enable the Forest Service to manage the land itself. Private companies may begin managing land that is otherwise maintained by forest rangers, by setting up campgrounds and other facilities and collecting additional fees.

Besides the inconvenience of obtaining a pass, the thought of needing a pass angers many people. It challenges an American legacy of enjoying free access to public land.

(Editor's Note) This is not true of all wilderness areas, at least not yet. However, there are more changes being considered that are likely to require permits and charges, both inside and outside wilderness areas.

We would call your attention to Bills introduced into Congress, S-831 and HR-786.

Of one thing we are certain. Fees and permits for the use of public lands are likely here to stay.

ALAA Electronic Newsletter (June 30, 1999)

Note from *The Rockfinder*: This issue seems to be directly linked to a large portion of the public wanting to have the federal government spend less money. Some people want the government to spend less, but not on their pet items. Looks like it depends on whose ox is getting gored.

Gold Beach Ranger District
April 27, 2000
Michiana Gem & Mineral Society

Dear Margaret,

Thank you for sending the limestone, dolomite and calcite samples from Indiana. The trip to the Oregon Caves was very successful and educational for the fifth-grade classes from Riley Creek Elementary School in Gold Beach. I was able to obtain marble chips from a local stonemason so that each student had a piece of marble to take home. The rock samples you sent (with the wonderful, macroscopic calcite crystals) were passed around on the bus during our trip to the caves, and were excellent teaching aids for our discussion of how marble is formed.

I've retained some of the samples for future use with other schools on the south coast, but most have been contributed to Riley Creek School. Enclosed is just a sample of the letters I received from the students.

Michiana Gem & Mineral Society has certainly contributed to the knowledge and enthusiasm of these students.

Please share my gratitude and best regards with the club. Most especially, I would like to thank you and Bob, and Kathy and Bob Miller, for the great hand samples you sent.

Sincerely,

Maggie

Margaret H. McHugh

Forest Geology/Soils

Siskiyou National Forest

(Some of the notes Maggie received)

The rocks you brought were very cool. Thank you for bringing those awesome rocks for us! And those rocks from Indiana. *Pilar Martinez.*

Thanks for giving us the rocks. I really like them. Thanks for writing to Indiana to get the rocks. *Nathan.*

Thank you for coming with us on our trip to Oregon caves and for listening to all I had to say. I'm glad you got to come. It was a great experience for us

all. Thank you for the marble. I did the experiment and it was awesome. I am really thinking about being a geologist my self. *Michelle Hampton.*

I would really like to thank you for spending time to write to Indiana for the cool rocks. My favorite was the calcite. *Paul Heim.*

Thank you very much for coming on the field trip with us. We all like the speech that you gave us on the bus. Everyone loved those rocks that you let us hold and look at. Thank you very much. Sincerely, *Danielle Hilton.*

MICROMOUNT MINERALS FROM THE SWEET HOME MINE, ALMA, COLORADO

by Jim Hurlbut

The Sweet Home Mine is famous for producing large gemmy rhodochrosite crystals. Since 1991 it has been operated by Bryan Lees as a specimen producer. Many of the pockets that have been exploited for large specimens of excellent euhedral crystals have also produced excellent micromount specimens of fluorite, pyrite, chalcopyrite, sphalerite, tetrahedrite, bournite, quartz, goyazite, galena, huebnerite, fluorapatite, dickite and combinations of these. At the present time over 30 different species have been identified from this mine.

The mineralization of the Sweet Home Mine is typically a low- to medium-temperature hydrothermal vein system that is typical for the Mosquito Range region. The period of mineralization occurred after much of the overlying Paleozoic and Mesozoic strata was eroded away. The specimen-rich Tertiary veins run in preexisting northeast-trending minor fractures. Many of the veins are vuggy, implying open space deposition. Many of the micromount crystals are found on the small quartz crystals. Fluorite crystals are found in clear, purple, blue, green and yellow. They also show many different crystal shapes, parallel stepped growth, penetration twins, cubes, octahedrons, dodecahedrons and combined forms. Much of the huebnerite is transparent red crystals.

In 1998 the micromount group from Colorado Springs, Colorado, visited the mine on a field trip. Several specimens with hair-like crystals of galena were found. These turned out to be a new find from this mine.

Rocky Mountain Federation News (May, 1999)



CLUB WEEKEND BUS FIELD TRIP TO GRAND RAPIDS UNDERGROUND MINE, FREDERIK MEIJER GARDENS, MUSEUMS AND CHENEY LIMESTONE QUARRY

By Kathy Miller, Field Trip Chair

The Michiana Gem & Mineral Society has a Cardinal coach chartered for September 15, 2000, through September 17, 2000, for this field trip. This is the first weekend field trip where rain will not be a concern; you can't beat that for a great time!

The following is an itinerary for those who will be going. **Friday, September 15**, meet at the K-Mart parking lot on the corner of Ireland Road and 31 South. We will board the bus at 4:45 p.m. and leave promptly at 5:00 p.m. (Note, the time is later than previous years.) Your cars may be left in the K-Mart parking lot for the weekend. We will be arriving at the Super 8 motel in Wyoming, MI (a blanket city of Grand Rapids) for the two-night stay.

Saturday, September 16, we board the bus at 9:30 a.m. There is a Denny's restaurant next door for those wanting breakfast before we leave. The bus will take us to the Michigan Natural Storage Company. We will enter the mine at 10:00 a.m. and will be able to collect until 12:30 p.m. When we leave, the bus will take us (if it is a nice day), to the Frederik Meijer Gardens that open at 12:00 noon. This is where you will see the famous copy of the huge bronze horse by Leonardo da Vinci. The gardens are easily accessible and wheelchairs are available. Not only are there nature trails but many exhibits events and programs to be seen while you are there. We will board the bus again between 4:00 and 4:15 p.m. For lunch you may either brown bag or buy at the Garden View Cafe on the grounds.

Dinner that night (as of this writing) has not been decided on. This will be finalized soon.

If it is raining on Saturday, we have the option of the Gerald Ford Museum or the Public Museum of Grand Rapids; both are excellent.

Sunday, September 17, we board the bus at 9:00 a.m. If the weather is sunny we are on our way to Bellevue and the Cheney Limestone Quarry, where

we will do more collecting. After we leave there we will stop for a quick fast-food lunch on the way home.

If it is raining on Sunday, once again we have the option of going to a museum in Grand Rapids and leaving for home from there. We will be back in South Bend at 6:00 p.m.

The following is the cost and additional info:

(1) The Super 8 has reserved 19 no-smoking rooms with 2 queen size beds in each room for us at a block room rate of \$54.42 per room per night (that includes tax) which comes to \$108.84 for the two nights. The bus will make a quick stop for fast food on Friday night or you may wish to bring food. The same for Saturday noon, brown bag or buy. Saturday night we will eat together as a group at a restaurant, and Sunday buy on the way home. As I said, there is a Denny's next to the Super 8.

To collect in the mine there is a \$2.00 charge per person, child and adult. The F. Meijer Garden has a fee of \$6 adult, senior \$5, children 5 to 13 \$3, and under 4 free. I do not have the cost of the museums yet, but I am sure there is a fee also.

(2) What to bring: lantern or flashlight (extra flashlight or batteries), rock pick, small chisel, hard hat, collection basket or bag, safety glasses, boots or sturdy shoes (not sneakers, it gets damp and sticky in some places), and a jacket (the mine temperature is 52 degrees and it has six miles of tunnels). You will use the same shoes for the Cheney Limestone Quarry and the same equipment except for the flashlights. Bring enough collecting containers to be kept under the bus. Newspapers or egg cartons might be useful for any selenite crystals you might find. Some people may take optional equipment of a heavy hammer, small ladder or sturdy bucket to stand on.

(3) What to find: At the mine, small selenite crystals, usually found in openings high along the walls. Most of these are transparent and fragile. Pencil spar can be found, as well as gypsum for carving or specimens when it dries out. Gypsum crystals are actively growing. At the Cheney Quarry we will be looking for pyrite, peacock pyrite, calcite and fossils, fresh country air and being outdoors.

(4) At the mine you may wish to bring water. The mine is 85 ft. underground and there are NO services available. We will be there 2 1/2 hours, so be prepared with your own water. Restrooms are available on the upper level.

(5) Safety release forms: You will be required to sign a release stating that the storage company is not responsible for accidents or injuries. Children (I am guessing on age, but probably 10 and under) are requested not to use tools, but have parents use the tools for them.

(6) For those wishing to go but NOT to enter the mine, I am told there is good collecting on the surface in tailings. So you should be able to collect above. Let's hope it doesn't rain for you.

It is very important that you bring two pairs of good walking shoes: one for the mine and quarry and one pair to wear on the bus and walk the gardens or museums. Don't forget plastic bags to put your collecting shoes in for under the bus.

Bring snacks for the bus and your motel room. Bring beverages for the bus and your motel room. Bring yourself and enjoy a fantastic rockhound weekend for all ages in the company of friends who love the hobby.

P.S. Get in touch with me ASAP as I have an early deadline date this year because of the motel.
 Kathy Miller 291-0332 or (KanBrock@aol.com).



IN OREGON — A PIECE OF EARTH'S CORE?

A group of Cornell University scientists believe that specimens of a mineral they have analyzed in their laboratory are pieces of the earth's core. If confirmed, the rocks would be the first samples of the core ever identified. The core's outer boundary lies at a depth of 2,900 kilometers, nearly half the distance to the center of the earth.

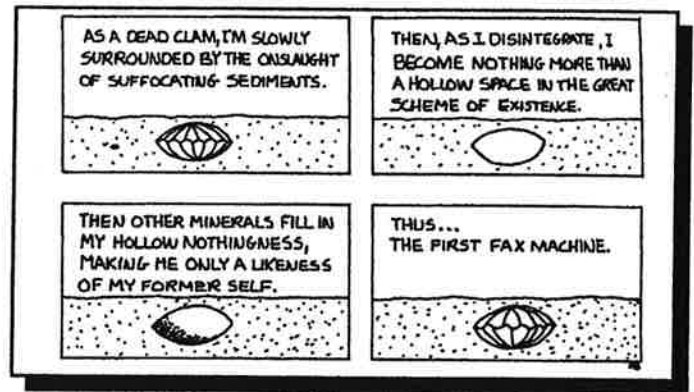
The specimens are of the mineral josephite —

an iron-nickel alloy found along Josephine Creek in the Klamath Mountains of southeastern Oregon. Josephite is apparently unique, having no resemblance in size, texture or total composition to any other iron-nickel minerals. The density of the rocks precisely match that of the earth's outer core, as determined through accumulation of seismic data.

The strongest evidence that the rocks are from the earth's core is the particular appearance of the garnet in them. The garnet is aligned in strange maze-like patterns that outline the crystal structure of the metal in the rock. The Cornell scientists regard the configuration as proof that the garnet became exsolved (sic) from the iron-nickel alloy in the solid state. They believe that this phenomenon could only have occurred as a result of the relaxation of pressure as the material ascended from the inner earth.

How the material reached its present location is explainable by ramifications of the theory of plate tectonics. The material rose to the surface by some kind of convection mechanism as part of a slowly ascending plume of material from deep in the mantle. It became incorporated in the Pacific Crustal Plate, a vast segment of the earth's crust and upper mantle underling the Pacific Ocean. The eastward movement of the Pacific Plate eventually brought the portion containing the josephite into contact with the North American Plate, where it was pushed into its present location in the Klamath Mountains.

no author
 Hatrockhound Gazette (Jan., 2000)



© 1999. Reprinted from *First Families, A Primitive View* by Steinrock, Conkin, & Conkin, with the permission of Hycliffe Publishing, PO Box 7434, Louisville, KY 40207-0434.

PSEUDOMORPHS

By Gary Spinks

The word "pseudomorph" means literally "false shape," and is used to describe certain minerals that have taken on the characteristic shape of other minerals. A pseudomorph occurs when one mineral replaces another, either chemically as a replacement or physically as a coating or both. Occasionally, some of the original mineral remains intact (partial pseudomorph) and at other times the original material is completely dissolved away or replaced.

Generally, pseudomorphs are described as "X pseudomorph after Y" (or Xps @Y), meaning that mineral X has replaced mineral Y. So the expression copper ps. @ aragonite means that copper has replaced aragonite. In a famous recent discovery from Bolivia, sixling twinned crystals of aragonite have been wholly or partially replaced by copper. These crystals were found underground at a relatively shallow depth. Copper minerals from a nearby deposit were dissolved by the ground water and the copper was in turn leached out of the aqueous solution by the aragonite crystals. Those aragonite crystals that were found below the water level were completely replaced by copper. Those at the water level were partially replaced and those above the water level were unchanged.

On rare occasions, repeated substitution happens, as in the case of pyrite ps @ limonite ps @ pyrite. Here, the original pyrite was replaced by limonite and at some later date the limonite was replaced by pyrite. The curved and striated crystal faces are relics of the limonite replacement. This type of repeated substitution usually requires relatively high values for pressure and temperature.

A mineral can also replace itself, as in the case of analcime ps @ analcime. In this instance, a secondary growth of tiny analcime crystals may begin to coat and replace the original crystals. This replacement phase usually signals a significant change in the reaction environment.

Minerals can even replace organic material, as in the case of quartz ps @ tree, which is also known as petrified wood.

Pseudomorphs are generally found in mineralogical environments which have undergone severe changes in environment and also have a ready source of replacement minerals available.

The Strata Data (Jan., 2000)



THE WORLD'S LARGEST PIE... NO, MAKE THAT "PIT"!

The largest open pit mine in the world is located 26 miles southeast of Salt Lake City, Utah. The Bingham Canyon Mine, commonly called the Bingham Pit, has yielded more than 12 million tons of copper. In the process, five billion tons of rock have been removed from the pit, and within the next 25 years an additional three billion tons will be taken out. The Bingham Pit is already the largest man-made excavation in the world. It covers three square miles and is about 3,000 feet deep. Approximately two-thirds of Utah's annual mineral production comes from this one mine.

Drywasher's Gazette (May, 1997)

DUMB QUESTIONS ASKED BY TOURISTS OF ARK EMPLOYEES

Compiled by Alan Silverstein, from material in *Outside Magazine*, May 1995, 120-21, postings to rec.backcountry newsgroup, and other sources. Contact Alan at ajs@hpfcajs.hp.com for any specific information on sources.

Grand Canyon National Park

- * Do you light it up at night?
- * I bought tickets for the elevator to the bottom; where is it?
- * Is the mule train air-conditioned?
- * Are there dining cars on the mule train?
- * What time does Old Faithful go off? (Recall, this is Grand Canyon)
- * So where are the faces of the presidents? (see above)
- * Was this man-made? How did they make it?
- * What year did they build this?
- * Exactly why did you guys put it here?

Glacier National Park

- * What does the park service do with all the animals in the winter?

Yellowstone National Park

- * Does Old Faithful erupt at night?
- * How do you turn it on?
- * When does the guy who turns it on get to sleep?
- * Where do the animals sleep at night?
- * We had no trouble finding the park entrances, but where are the exits?
- * Do we have to leave at night before the gates are closed?
- * When do the deer turn into elk?
- * Can we eat this? (holding a handful of droppings that look like milk duds)

Grand Teton National Park

- * What is the white stuff up there? (pointing at snowfields)

Devils Tower National Monument

- * Where's the entrance to the elevator?

Lake Michigan

- * What ocean is that?
- * Are there waves on Lake Michigan?
- * But it's always too cold to swim in, right? (debatable)
- * Wouldn't it be neat if they built a pipeline so we could use this water to irrigate our crops in California (grrr...)

Niagara Falls

- * Where can I buy a ticket for the barrel ride?

Any National Park...

- * Have we done all there is to do, or are we missing something?
- * Is this place on the list?
- * What is there to do around here at night?
- * Is there anything interesting up the trail, or just more of the same? (trees, rocks, streams, you know)
- * Tourists to one another: Are you seeing anything good?
- * Since there are bears here, should I keep my cat inside the tent?

Denali National Park, Alaska

- * What time do you feed the bears?
- * Can you show me where the Yeti lives?
- * How often do you mow the tundra?
- * How much does Mount McKinley weigh?

Prince William Sound, Alaska

- * (While sea kayaking)... What elevation are we at?

Yosemite National Park

- * Where are the cages for the animals?
- * What time do you turn on the falls?
- * Can I get my picture taken with the carving of President Clinton?

SOME MINERALS FOUND IN GEODES, OR WHAT'S THAT IN THERE?

By Duane Jorgensen

Who knows how geodes are formed, or what their origin is? Several diverse hypotheses for the origin of geodes have been offered, all of which make some sense, depending on the geologic environment of the geode. The geodes of southern Indiana's and Ken-tucky's Harrodsburg Formation are described as originating as fossils which have enlarged into geodes by an accretionary process, somewhat similar to the process that results in gypsum/anhydrite nodules. Anyone who has seen the part fossil-part geode geodes might easily believe that a geode was originally a fossil, but such is not the case. Other original forms that may now be geodes include gypsum nodules, and (burp) gas bubbles, especially if the geode originates in or from a lava flow. Also, it is worth considering what makes a geode a geode. It is only the fact that there is a shell of some mineral that is more weather-resistant than the surrounding rock. Just imagine all the geodes that might come from the quarry at Corydon, IN, if the pink dolomite were harder than the surrounding rock and weathered out of the rock. Geodes should not be confused with geodesics (a type of dome), nor geoids (the triaxial shape of the earth), nor concretions, although septarian concretions may sometimes resemble geodes. The following list of minerals includes only those that I have been fortunate enough to observe or find in person, and I'm sure some of you have "I found it" lists much more extensive than the following:

Quartz: Probably the most common geode mineral, usually found as crystals radiating inward toward the center of the geode. Chalcedony is also found, sometimes as an outer rind or shell containing crystalline quartz.

Calcite: Not very common but does occur.

Dolomite: Probably more common than calcite in geodes, and often containing traces of iron resulting in ferrodolomite or ankerite.

Aragonite: Anyone who has collected the spectacular aragonite geodes from the Indiana Highway 37 road cut north of Bloomington has real goodies!

Kaolinite: Geodes from Gray's quarry, Hamilton, IL, contain kaolinite as crumbly white powder.

Sphalerite: Often black due to contained iron. I haven't found any, but goslarite or zinkosite, the sulfates, might be expected.

Pyrite: In a great variety of crystal forms. I don't recall collecting any marcasite, but it is likely to occur.

Hematite: One of the abandoned quarries near Bloomington has geodes that contain small hematite crystals as trillings and other combinations.

Millerite: One of the most spectacular geode minerals. This NiS mineral tarnishes to nickel sulfate which Dana 4th edition gives as morenosite. Others have called the tarnish honosite. However, they probably are two different minerals, differentiated by their water content.

Celestite: One of the most sought-after minerals in geodes, the blue celestites from southern Indiana are world famous.

Rockhound News (Mar., 1999)

