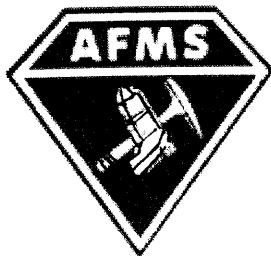


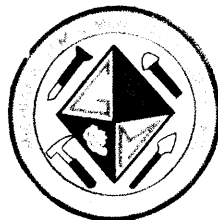
# **THE ROCKFINDER**

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



# **THE ROCKFINDER**

JANUARY, 2010



# MICHIANA GEM & MINERAL SOCIETY

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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 usually held the fourth Sunday of each month, 2:00 p.m., 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 monthly meetings. The annual club show is in late August.



Yearly Membership Dues (Payable by December 15)  
 \_\_\_\_\_ Individual \$15.00 per year  
 \_\_\_\_\_ Family \$20.00 per year  
 \_\_\_\_\_ Junior \$1.00 per year  
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Please indicate areas of special interest:  
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Michiana Gem and Mineral Society ([www.sauktown.com/Michiana](http://www.sauktown.com/Michiana)), a not-for-profit organization, is affiliated with the Midwest Federation of Mineralogical Societies ([www.amfed.org/midwest.htm](http://www.amfed.org/midwest.htm)) and with the American Federation of Mineralogical Societies ([www.amfed.org](http://www.amfed.org)).

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

### 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 \_\_\_\_\_

Signed \_\_\_\_\_ Date \_\_\_\_\_

Additional family names:

Name \_\_\_\_\_  
 Birthday \_\_\_\_\_

Name \_\_\_\_\_  
 Birthday \_\_\_\_\_

Name \_\_\_\_\_  
 Birthday \_\_\_\_\_

Please send your dues and this form to  
 Michiana Gem & Mineral Society  
 c/o, Marty Perry, 29154 Frailey Dr., Elkhart,  
 IN 46514

# THE ROCKFINDER

Newsletter of the Michiana Gem and Mineral Society

Volume 50, Number 1

January, 2010

**Next meeting:** January 24

Visitors are always welcome.

Doors open at 1:30. Meeting starts at 2.

**Place:** Our Redeemer Lutheran Church  
805 S. 29th Street (29th & Wall)  
in South Bend, River Park area.

**Program:** "*Mystery Stones*" presented  
by David Peltz. Are you curious? Come to  
the meeting!

**Refreshments:** Pat McLaughlin, Kathy  
Miller and Linda Miller

## WEATHER UPDATES

During the winter months, if there is any inclement weather on meeting day, members can call any board member on Sunday to check for cancellation of the meeting.



## UP AND COMING

**February 1:** Science Alive at the downtown South Bend library.

**February or March:** Proposed field trip to Alabastine Mine in Grand Rapids.

**March 14:** MGMS bus field trip to the Field Museum in Chicago.

**September 17-19:** MGMS bus field trip to southern Ohio for fossil collecting.

**August 27-29:** Annual MGMS show at the fairgrounds.

### JANUARY

23: Lincoln (NE) Gem & Mineral Club Midwinter Swap; Bethany Park Shelter House.

### FEBRUARY

27-28: Anoka County Gem & Mineral Club's Pre-Spring Show; Har Mar Mall, Roseville, MN.

### MARCH

13-14: Geodeland Earth Science Clubs, Inc.'s 30th Annual Show; Western Illinois Univ. Student Union, Macomb, IL. [dbomke@comcast.net](mailto:dbomke@comcast.net).

5-7: Eastern Indiana Gem & Geological Society's Annual Show; Wayne Co.

Fairgrounds, Richmond, IN. [midwestchar@peoplepc.com](mailto:midwestchar@peoplepc.com).

20-21: Cedar Valley Rocks & Minerals Society Show; Teamsters Hall, Cedar Rapids, IA.

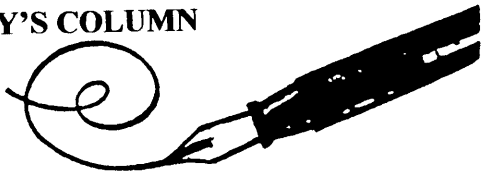
### APRIL

3-4: Lincoln Gem & Mineral Club Show; Lancaster Event Center.

10-11: Southern Illinois Earth Science Club's Annual Show; Williamson County Pavilion, Marion, IL.

HAVE YOU PAID YOUR 2010 MGMS DUES YET?  
TREASURER MARTY PERRY'S CONTACT  
INFORMATION IS ON THE BACK OF THE  
COVER PAGE.

KATHY'S COLUMN



It's New Year's weekend--hasn't this year zipped by! It just seemed a few days ago that we were enjoying our Christmas party, and THAT was FUN! A BIG thank you to all the members who came and for the good food and fellowship you supplied.

Santa was able to hand out 23 gift bags to our junior members. Speaking of juniors; applause to all who earned and received merit badges at the party for their earth science projects completed these past few months. Our juniors leader, Cordelia Tomasino, has done a wonderful job helping our younger members to achieve their goals! It was great to meet some of our charter members and their parents from the JEWELS too.

We have a lot to look forward to in the year 2010. I hope by now all the members have turned in their dues to Marty Perry (our new treasurer) so you may continue to enjoy our meetings, *The Rockfinder*, the annual show, field trips and of course being with friends enjoying our mutual hobby.

**The next meeting is on Sunday, January 24.** (REMEMBER, we normally meet on the fourth Sunday of the month.) I'm sure Vice-President David Peltz has a good program in mind. I know the junior members have a great program planed, led by our own Robert Lamar with the assistance of Rob Schuster. Also at the January meeting we are re-suming having door prizes. Past President Don Church has volunteered to be in charge of that part of the meeting. Thank you, Don.

On February 6 from 10:00 a.m. to 4:00 p.m. any folks who can spare some time might wish to visit the main library in downtown South Bend for Science Alive. Don Szczodrowski has volunteered to represent our club for the day to the many hundreds of schoolchildren and their parents who attend Science Alive. He probably could use some help or a break. This is a real community outreach for us.

I'm also going to speak with the 4H Fairgrounds folks this year about having our club's

exhibit put in at the Nature Center on the 4H Fairgrounds during the time of the St. Joe County 4H Fair from July 2-10. Bob and I have noticed many earth science, nature and wildlife exhibits that are shown and we need to get OUR hobby out to the public. Also it is good P.R. for us. I will be asking for volunteers to work at the Nature Center for short periods each day of the fair, like the other exhibitors do. This is one of their stipulations or requirements for exhibiting.

We have the annual picnic in July (I will get the date set before the January meeting) and of course our wonderful annual show that we put on every year in August. You have almost 8 months to prepare your displays. The show will be here before you know it! Winter months are a good time to get started before the collecting season begins. Speaking of collecting, be sure to read the field trip reports found in this newsletter. A lot will be redundant, but need to be reinforced for necessary information.

Now I think I am starting to ramble on so I will close with wishing all of you a most Joyous and Blessed New Year with good health and by all means good collecting!

Rock On!

Kathy

**Cardinal Bus Field Trip I**

Field Museum, Chicago, IL

March 14, 2010

**Meet:**

Meijer Store, S.R. 331 (3610 S. Bremen Hwy., Mishawaka, IN), in the southeast corner, we leave cars there.

**Time:**

Board the bus at 7:45 a.m., leave at 8:00 a.m. our time, arrive Field Museum 9:30 a.m. their time.

**Depart Museum:**

Board the bus 4:30 p.m. our time.

**What we will see:**

The Nature of Diamonds--a special limited engagement including the Tiffany Diamond and the Incomparable Diamond.

The Grainger Hall of Gems--just recently reopened and renovated (optional). Begins March 5, 2010. Mammoths and Mastodons--Giants of the Ice Age.

**Expense:**

We are going at a group rate (savings of \$3.00 per person). The prices are:

Gold Pass: Entrance fee, Diamond Exhibit and Grainger Hall

Adult (18-64) \$20.75; Child (3-11) \$11.75; Senior 65+ or Student (12-17) \$18.00.

Platinum Pass: Entrance fee, Diamond Exhibit, Grainger Hall, Mammoths and Mastodons

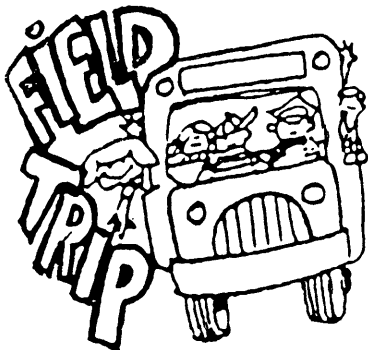
Adult (18-64) \$26; Child (3-11) \$14.50; Senior 65+ or Student (12-17) \$23.50.

*Bob and I want to see it all so we are getting the Platinum Pass.*

To pay a group rate, the Field Museum requires the money in advance, so you need to send your money (or check made out to Michiana Gem & Mineral Society) and designate which pass, what age group and how many for each group/family by February 14 to our club treasurer, Marty Perry. She in turn will send a full payment check for our group, informing them of amount, ages, how many in each group (Gold or Platinum). No refunds because of the group rate and ticket availability. You need to call me or sign up at the January 24 meeting for bus seating. There are 22 seats left as of today, January 3. Bob and I will be out of town from January 30 to February 14.

The museum offers a regular and fast-food restaurant, plus a lunch room if you wish to bring in and carry around a bag lunch. The last time we were there they also had soft drink machines. They do have a very neat gift shop you might wish to visit. Don't forget to bring snacks and drinks for the bus.

We have a 56-passenger bus so it should be a fun trip and as I said before take some of the blahs off our winter months.



**Cardinal Bus Field Trip II**

Three Day Field Trip, Southern Ohio

September 17-19, 2010

It's a go!! We leave September 17 from the Meijer store, (S.R. 331, Bremen Hwy., Misahawaka, IN) at 4:30 p.m., and returning September 19 around 6:30 p.m.

Our destination is Franklin, Ohio, staying at the Quality Inn. We have a block of 20 rooms with 2 queen beds at \$67.49 (includes tax) per night. They have an indoor pool and a hot breakfast, waffles included. Their phone number is (937-743-8881) I have been speaking with a lady named Shelly.

On Saturday morning we leave around 9:00 a.m. for Caesar Creek to hunt fossils. After a morning of hunting we're off to Hueston Woods to hunt some more. Both places are on either side of our motel and the state park officers assured me of good collecting and GOOD STUFF! We will be dining at the Manchester Inn on Saturday night. The cost of the buffet will be decided after I have a complete listing of how many will be participating that weekend.

On Sunday, depending on weather and communications with Fossil Park in Sylvania, OH, we are off to collect there before returning home. IF Fossil Park is inaccessible due to weather conditions, we can return to one of the previous collecting sites or possibly take in one of the two HUGE flea markets just 6 miles from the motel--we will wait on this plan.

As we get closer to our field trip I will have an update in the May or June *Rockfinder* with a more detailed trip report on what to bring, etc.

For now, the important item is to call the Quality Inn to reserve your room for 2 nights under our name, the Michiana Gem & Mineral Society. There is a block of 20 rooms, but 5 of these are already reserved and 5 more will have to be reserved ASAP by the people already signed up for the bus seating (those people need to get their reservations in), **which leaves 10 rooms and 30 seats**. I'm sure some of you will want to double or triple up for a room.

**Please sign up at the January 24 meeting for bus seating and if you have reserved your motel room send me that information with your room confirmation number, or call me if you**

**can't make the meeting.** Bob and I will be out of town from January 30 to February 14.

Please do not sign for bus or reserve a room if you have any doubts. Make sure your calendar and those dates are cleared for the trip and STAY cleared. If a relative wants a party for Aunt Fanny's 100th birthday, send her a card and later a beautiful fossil gift!

The club pays a large amount of money for our trips just so we have opportunity to have the educational experience of collecting, and a half-full bus is not good...plus many motels are reluctant to give block room rates anymore, so I really have to "sweet talk" to get them for us. So when you sign up, make sure you and your roomie/roomies (if you're sharing a room) are completely positive you will go.

This is a brand new area for us that we haven't been to before and southern Ohio is very beautiful, very hilly, picturesque **(and loaded with fossils!)**

Kathy

#### **TO ALL MEMBERS:**

Kathy received a nice letter thanking us for the food we collected at the Christmas party:

December 14, 2009

Dear Ms. Miller,

St. Monica St. Vincent De Paul wishes to thank the Michiana Gem and Mineral Society for your donation of food. Your generous contribution is greatly appreciated, and will help the society to provide assistance to families and individuals in difficult times.

May God bless you for your thoughtfulness, as well as for your generosity! Please remember us in prayer, as we do all those who assist us.

Sincerely,

Shirley Papay, Treasurer

Also, this note from Tess Miller when she paid her 2010 dues:

Dear Kathy,

Just a note to let you know I really appreciate the newsletter. I wish I was able to go on those

wonderful field trips! I was president of the Elkhart Mineral Society and the St. Joe Valley Rockhounds. We always had so much fun on the field trips.

Kathy, your newsletter is outstanding, along with the activities. Keep up the good work. I'm 91 years old with arthritis but I'm active in Friendly Pioneers, Program Chairman and Historian.

Best wishes to all,

Sincerely,

Tess Miller

#### **HOW GEOLOGIC PERIODS GOT THOSE CRAZY NAMES**

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 the places where rocks from the period were first discovered.

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

The Devonian is named for Devonshire, England, and the Cretaceous comes from "creta," Latin for chalk, referring to the White Cliffs of Dover, England.

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 from that period. (Ed. Note, in North America the Carboniferous is subdivided into the Mississippian, named for the Mississippi River, and the Pennsylvanian, named for the coal deposits first discovered in Pennsylvania).

The most recent periods are the Tertiary and Quaternary, named for types of rocks dated to those eras. 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, meaning more recent, less recent, little recent, early recent and oldest recent. Got all that now?

*The Pterodactyl, Apr., (2009)*



### TOURMALINE: Gemstone of the Rainbow

Tourmalines are gems with an incomparable variety of colors. The reason, according to an old Egyptian legend, is that the tourmaline, on its long journey up from the center of the Earth, passed over a rainbow. In doing so, it assumed all the colors of the rainbow. And that is why it is still referred to as the “gemstone of the rainbow” today.

The name tourmaline comes from the Singhalese words tura mali. In translation, this means something like “stone with mixed colors”, referring to the color spectrum of this gemstone, which outdoes that of all other precious stones. There are tourmalines from red to green and from blue to yellow. They often have two or more colors. There are tourmalines which change their color when the light changes from daylight to artificial light, and some show the light effect of a cat's eye. No two tourmalines are exactly alike. This gemstone has an endless number of faces, and for that reason it suits all moods. No wonder that magical powers have been attributed to it since ancient times. In particular, it is the gemstone of love and of friendship, and is said to render them firm and long-lasting.

In order to understand this variety of color, you will have to brush up your knowledge of gemology a little: tourmalines are mixed crystals of aluminum boron silicate with a complex and changing composition. The mineral group is a fairly complex one. Even slight changes in the composition cause completely different colors. Crystals of only a single color are fairly rare; indeed the same crystal will often display various colors and various nuances

of those colors. And the trademark of this gemstone is not only its great wealth of color, but also its marked dichroism. Depending on the angle from which you look at it, the color may be different or more or less intense. It is always at its most intense when viewed looking toward the main axis, a fact to which the cutter must pay great attention when lining up the cut. This gemstone has excellent wearing qualities and is easy to look after, for all tourmalines have a good hardness of 7 to 7.5 on the Mohs scale. So the tourmaline is an interesting gemstone in many ways.

In the trade, the individual color variants have their own names. For example, a tourmaline of an intense red is known as a rubellite, but only if it continues to display the same fine ruby red in artificial light as it did in daylight. If the color changes when the light source does, the stone is called a pink or shocking pink tourmaline. In the language of the gemologists, blue tourmalines are known as indigolites, yellowish-brown to dark brown ones as dravites and black ones as schorl. The last mentioned, mostly used for engravings and in esotericism, is said to have special powers with which people can be protected from harmful radiation.

One particularly popular variety is the green tourmaline, known as a verdelite in the trade. However, if its fine emerald-like green is caused by tiny traces of chrome, it is referred to as a chrome tourmaline. The absolute highlight among the tourmalines is the Paraiba tourmaline, a gemstone of an intense blue to blue-green which was not discovered until 1987 in a mine in the Brazilian state of Paraiba. In good qualities, these gemstones are much sought-after treasures today. Since tourmalines from Malawi with a vivid yellow color, known as canary tourmalines, came into the trade, the color yellow, which was previously very scarce indeed, has been very well represented in the endless spectrum of colors boasted by the “gemstone of the rainbow.”

Yet the tourmaline has even more names: stones with two colors are known as bicolored tourmalines, and those with more than two as multicolored tourmalines. Slices showing a cross-section of the tourmaline crystal are also very popular because they display, in a very small area, the whole of the incomparable color variety of this gemstone. If the center of the slice is red and the area around it

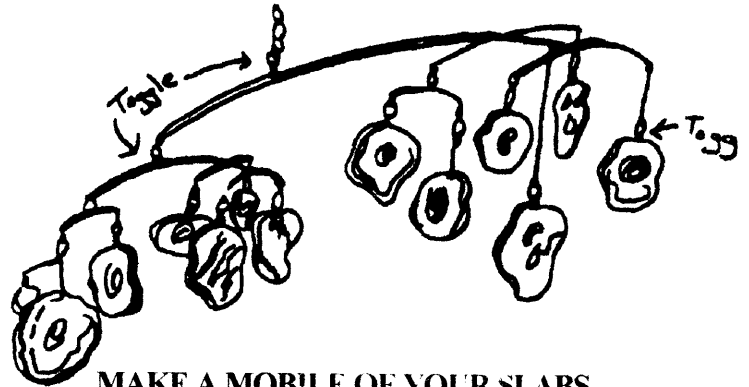
green, the stone is given the nickname watermelon. On the other hand, if the crystal is almost colorless and black at the ends only, it is called a Mohrenkopf, (resembling a certain kind of cake popular in Germany).

Tourmalines are found almost all over the world. There are major deposits in Brazil, Sri Lanka and South and south-west Africa. Other finds have been made in Nigeria, Zimbabwe, Kenya, Tanzania, Mozambique, Madagascar, Pakistan and Afghanistan. Tourmalines are also found in the USA, mainly in California and Maine. Although there are plenty of gemstone deposits which contain tourmalines, good qualities and fine colors are not often discovered among them. For this reason, the price spectrum of the tourmaline is almost as broad as that of its color.

It is not only designers who love the tourmaline on account of its inspiring variety of color. Scientists too are interested in it because of its astonishing physical qualities, for tourmalines can become electrically charged when they are heated and then allowed to cool. Then, they have a positive charge at one end and a negative one at the other. This is known as pyro-electricity, derived from the Greek word pyr, meaning fire. The gemstone also becomes charged under pressure, the polarity subsequently changing when the pressure is taken off. When the charge changes, the tourmaline begins to oscillate, similar to a rock crystal; but much more pronouncedly. The Dutch, who were the first to bring the tourmaline to Europe, were familiar with this effect a long time before it was able to be provided with a scientific explanation. They used a heated tourmaline to draw up the ash from their meerscham pipes, and called the gemstone with the amazing powers an "aschentrekker."

In the fascinating world of gemstones, the tourmaline is very special. Its high availability and its glorious, incomparable color spectrum make it one of our most popular gemstones - and apart from that, almost every tourmaline is unique.

*Rock Trails (Apr., 2009)*



### MAKE A MOBILE OF YOUR SLABS

Use brass rod and put a toggle on every connection so that each stone turns on itself and each group turns. Take care to have clearance between groups, if you don't want wind chimes. Put the whole unit together and find the center of balance before soldering a hanger on it. Translucent cuts take spot lighting beautifully. The shadow on a wall in a room can be lovely. Balancing the unit is as much fun as choosing to cuts of stone.

*Show-Me Rockhounds (Aug., 2007)*

### IT'S SCIENCE!

After having dug to a depth of 1,000 meters last year, Scottish scientists found traces of copper wire dating back 1,000 years and came to the conclusion that their ancestors already had a telephone network more than 1,000 years ago.

Not to be outdone by the Scots in the weeks that followed, English scientists dug to a depth of 2,000 meters and shortly thereafter headlines in the UK newspapers read: "English archaeologists have found traces of 2,000 year old copper wire and have concluded that their ancestors already had an advanced high-tech communications network a thousand years earlier than the Scots."

One week later, Texas newspapers reported the following: "After digging as deep as 5,000 meters in West Texas, Texas A&M scientists have found absolutely nothing. They have therefore concluded that 5,000 years ago, Texas inhabitants were already using wireless technology."

*Via The Pegmatite, April, 2007*



**A MINERAL THAT WAS AS GOOD AS GOLD**

By Homer Eshbaugh

Once upon a time, a mineral we now consider common was "worth its weight in gold" — literally!

That mineral is halite, more commonly known as salt, NaCl. It is a critical nutrient to all animal life, including humans. In fact, it is so important to survival that one of our four tastes was developed to detect it. (We can actually taste only four things: sweet, sour, bitter and salty. Flavor, what we usually think of as "taste," is actually a combination of taste and aroma, i.e., what we smell.)

The phrase "not worth his salt" comes from the ancient Greek, when salt was used to pay for slaves. Roman soldiers were sometimes paid in salt. In fact, our word for monetary payment for work, "salary," comes from the Latin for salt — sal. Our word "salad" (from the Latin saltar, meaning "salted") comes from the Roman habit of salting their fresh greens.

Today, many towns reflect their origins as sites of ancient or medieval salt mines or salt springs. "Wich" or "wytych" is the Old English word for "brine well" (what we now call a salt spring), and is seen in names like Northwich and Middlewich. The German word for salt, "Salz," appears in Salzburg (salt city), a large city located on the Salzach (meaning "saltwater" or "brine") River.

As with many precious materials, ancient lore grew around salt. It was so precious that the spilling of salt was deemed by the ancient Romans to be the work of the devil. Salt thrown over the left shoulder (where evil lurks) was believed to drive the devil away.

Halite crystal clusters in pink come from Searles Lake, California, where collecting is permitted only once per year. It gets its unique rosy pink color from halophytic bacteria trapped inside.

*MWF News* (Nov., 2008)

**GYPSUM**

By Wes DeCoursey

Editor's Note: This article placed 8<sup>th</sup> in the AFMS Advanced Adult Articles category.

Most rockhounds are familiar with the three forms of gypsum. Alabaster is the massive rock form which can be made into art objects, even lamp shades.

Selenite is the crystalline form of gypsum, which is easily found at Kanopolis Lake in Kansas as diamond-shaped crystals. Also there are unusual clusters of selenite crystals found in the salt plains of Oklahoma. Satin spar is the fibrous form of gypsum that is often found as veins in gypsum rock.

Crystalline gypsum is sometimes found in caves, such as Mammoth Cave in Kentucky. One unusual thing about the gypsum cave crystals is that they grow from the bottom out, almost as if they were being extruded from the earth. This usually results in curved and curly crystalline forms.

In the summers of 1955 and 1956, I was a Ranger Naturalist at Wind Cave National Park, South Dakota, and led groups of tourists through Wind Cave. Most caves contain stalactites, stalagmites, crystals and perhaps boxwork. These formations are composed almost exclusively of the mineral calcite, which is calcium carbonate. Gypsum, on the other hand, is chemically calcium sulfate, a different mineral. One time, while exploring in Wind Cave, I came across a room which contained beautiful white formations composed of gypsum: crystalline forms of curved extruded gypsum, hair-like formations of gypsum threads up to 14 inches long, and frost-like coatings, all of gypsum. This room later became a side trip for Wind Cave visitors, called the "Gypsum Room."

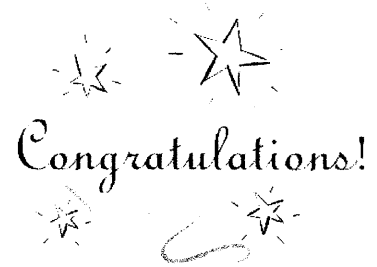
Since that time I have learned that the Denver Museum of Natural History has obtained and physically moved an entire room of gypsum cave formations from Mexico to the Denver Museum. In 1988 a new cave was discovered in New Mexico, called the Lechuguilla Cave, just five miles from Carlsbad. It has a room one mile long and 100 feet high, and the entire cavern is coated with sparkling white crystalline gypsum. This cave is ranked, as of 1991, the third longest cave, after Mammoth Cave, No. 1, and Jewel Cave in the Black Hills of South Dakota, No. 2.

Gypsum, as plaster of Paris, helps broken legs and arms to heal, and is used to make the walls of our houses strong, but it also adds beauty to our underground fairyland caves.

*The Post Rock* (Dec. 2000)

## Junior Rockhounds' Page

The JEWELs and the Michiana Jr. Rockhounds have been busy doing badge work for the *Earth in Space* badge, culminating in 14 juniors receiving their badges at the Christmas party in December. Some of the activities we completed were: 1) Learn about meteorites through examining and describing "edible rocks" (from NASA's web site) and then comparing them to photographs, 2) mapping out a scale model of the solar system on a one-mile trek and stopping at each planet for a report by one of the children, and 3) visiting and receiving a guided tour of the Joshua Tree Museum in Lakeville, IN, and seeing Terry Boswell's large collection of meteorites--many available to the children to touch and compare (it was neat that the kids had learned the proper vocabulary through our edible rocks activity and knew what they were looking at). Our guides were able to describe where the meteorites were found, their origins & composition, and discuss the whole search & retrieve process, especially in several villages in Africa that depend on meteorites for much of their livelihood. Congratulations to the following juniors:



Ashley Muhlenkamp  
Staci Woolley  
Bethany Tomasino  
Datron Lloyd  
Matthew Hefner

Braden Huffman  
Mariah Woolley  
Vincent Tomasino  
Ashley Miller  
Michael Hefner

Matthew Anderson  
Teresa Tomasino  
Morgan Metzger  
Kaley Miller

### JEWEL's January Activities:

Under the direction of Dr. Peter Burns, Director of the Notre Dame Energy Frontier Research Center and the Henry Massman Professor of Civil Engineering & Geological Sciences, and his team of graduate students, more than 30 juniors completed projects for the *Rocks & Minerals* badge at the Geology Laboratory on the Notre Dame campus. The juniors learned the characteristics of minerals and used a mineral ID kit to identify unknown mineral samples. They also discovered and learned to identify the different crystalline shapes of minerals and made their own crystals. A highlight for many was the tour of Dr. Burns's research laboratory, where they were able to observe the element neptunium and see ongoing uranium research projects. Many thanks to Prof. Peter Burns and his staff for their time spent so graciously with us!



### Michiana Jr. Rockhounds:



This group of juniors meets during the regular monthly society meetings to work on merit badges and lapidary projects, and to learn more about earth science. This month, several teen members will be demonstrating how to make friendship bracelets with embroidery floss and beads, and then helping the juniors to make their own bracelets.