

Michiana Gem & Mineral Society  
Jason Hefner, Editor  
229 East State St  
Etna Green, IN 46524



December 2011 Volume 51 Number 10



# THE ROCKFINDER





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.

Michiana Gem and Mineral Society ([www.sauktown.com/Michiana](http://www.sauktown.com/Michiana)), is a not-for-profit organization affiliated with the Midwest Federation of Mineralogical Societies <http://www.amfed.org/mw/> and with the American Federation of Mineralogical Societies [www.amfed.org](http://www.amfed.org)

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Please note that all items for a given issue of the *Rockfinder* are due to the **Editor** no later than the 5<sup>th</sup> day of the previous month. This means that the due date for the March Issue will be February 5th. Advance items are appreciated. Material may be e-mailed to [hefner\\_family@hotmail.com](mailto:hefner_family@hotmail.com) or submitted via the U.S. Mail.

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## Kathy's Column - President Kathy Miller

THE OFFICERS and BOARD WISH ALL the MEMBERS a MOST BLESSED HOLIDAY and CHRISTMAS SEASON and a WONDERFUL NEW YEAR! We're looking forward to seeing everyone in 2012.

Rock on,  
Kathy

## December Christmas Party Minutes

A very brief business meeting was conducted to nominate and vote in the 2012 Board and Officers. 75 members were present. After the vote everyone enjoyed themselves with great food and a time to visit.

Kathy Miller reporting for Secretary Michelle Winters

## Up & Coming

**Next Meeting:** January 22, 2012

**Place:**  
Our Redeemer Lutheran Church  
805 S 29<sup>th</sup> Street  
(29<sup>th</sup> & Wall)  
South Bend, IN.  
This is in the River Park area.

**Refreshments:**  
The Hostess Chairman will call the 3 members who volunteered at the Christmas party with a reminder. The 2012 Refreshment list will be available to fill out at the January meeting. Please sign up!!!

**Program:**  
Building your own lapidary equipment – Bob Miller



## Board of Directors

President:  
Kathy Miller  
574-291-0332

Vice-President:  
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269-465-5814

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574-267-6127

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269-683-4088

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219-778-2196

## Dinosaur Ridge Trip Report – by Jason Hefner

I was lucky enough to be in Denver Colorado late April 2011. I brought the rain with me. I was told it was the first measurable rain in well over a year. That did not stop me from seeking out a local geologic marvel one evening after work.

Below is the information from the Dinosaur Ridge [website](#) along with the photos I took while there.



Driving by Dinosaur Ridge. Note the lighter colored road cut. This is where all the exposures are located.

This 1.5-mile trail along Alameda Parkway, between Rooney Road North and County Road 93 ([see map](#)), has hundreds of dinosaur tracks, a quarry of dinosaur bones, and interesting geologic features. To hike the Ridge will take between 1-2 hours and is about 2 miles round trip.

Built by the City of Denver and maintained by the Friends of Dinosaur Ridge, West Alameda Parkway traverses the Dakota Hogback, which has locally been renamed “Dinosaur Ridge” by the USGS. The National Park Service has designated the area a National Natural Landmark, the state of Colorado has made it a Colorado Natural Area, and the Colorado Geological Survey recommends it as an official Point of Geologic Interest.

Continued next page

## Dinosaur Ridge Trip Report continued from page 2

The trail has over 15 sites, each marked by an interpretive sign. Fossil sites, interesting rock sites, and scenic overlooks provide hints to the prehistory of Colorado's Front Range.

### Tracksite

Originally uncovered accidentally during the construction of West Alameda Parkway in 1937, the large tracksite was open for 52 years until the Friends of Dinosaur Ridge was formed to aid in preservation and protection of the footprints. Many tracks were vandalized or completely removed, though a single track found its way back in 2007

Today, after an expansion of the main site in 1994, over 300 tracks have been identified. Of those at least half are periodically colored using charcoal by Dinosaur Ridge volunteers to help visitors see the tracks in the sandstone.



Although the area where you can actually TOUCH the footprints was closed it was amazing to see these prints in the rock. Without a guide or an expert it appeared that there were at least 3 different types of dinosaurs represented. Continued on Page 6

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## Juniors Activities – How are sedimentary rocks formed?

Have you ever seen rocks with distinct stripes of color or texture? If so you've been looking at sedimentary rock. **Sedimentary rock** forms in layers that are deposited one after the other over long periods of time. The layers are made out of **sediments**, meaning **particles** of **soil**, other rocks, and **mineral** deposits. The sediments mix with water and eventually settle on the bottom of rivers and streams and form layers. Over geologic time (thousands or hundreds of thousands of years), the layers will harden into solid sedimentary rock. Over two-thirds of the land mass on Earth is covered in sedimentary rock!

The Sedimentation experiment below is designed for 3<sup>rd</sup> – 5<sup>th</sup> grade students with help from a parent. This is a good experiment to take up a few days during the Holiday break.

Good Luck – Jason

Mixture of different-sized rock, gravel, sand, and soil particles  
 Printer or access to a place that will print an 8x10 photo for you  
 Coping saw, have an adult help you use the saw and use caution!  
 Water  
 A penny, a quarter, a nickel, and a dime  
 Photo software that will enlarge photos  
 Lab notebook

Permanent marker  
 Plastic baggies, sealable  
 Tablespoon  
 Small plastic water bottle  
 Digital camera  
 Metric ruler

1. Gather up different sources of particles that vary in size, type, and texture. Good sources of particles are mud, sand, gravel, and rocks.
2. Keep the samples separated so that you can go back and look at it later if you need to. Do this by placing some of the material in a sealed plastic baggie and labeling the baggie with a permanent marker. Indicate where and when you found the material.
3. Now make a mixture of your different materials by adding 2 tablespoons of each material to another plastic baggie, then seal the baggie and shake to mix the materials together. Label this baggie as your *Mixture Sample*.
4. Prepare the plastic water bottle for your experiment. With an adult's help, cut off the top spout of the bottle with the coping saw. Be sure to wear your safety goggles.
5. Carefully pour your mixture sample into the water bottle.
6. Fill the water bottle to the top with water. Pour it slowly into the bottle so that the particles have time to absorb the water and don't float out of the bottle.
7. Cover the top of the bottle completely with your hand and shake it approximately 20 times up and down to thoroughly mix the particles and the water.
8. Set the bottle down in a safe place indoors, where it won't get knocked over or bothered by another person, and leave it undisturbed for a few days, or until *all* of the water has evaporated. It is best to leave the bottle in a sunny place to help the water evaporate and the layers to harden.
9. When you can see that the water is completely evaporated and the soil is hard, you are ready to cut open your bottle. Have an adult help you cut the bottle lengthwise in half with the coping saw. This will reveal a cross-section of the layers that formed in the bottle.
10. Arrange the bottle halves and the penny, nickel, dime, and quarter on a light-colored surface in a well-lit area, like a concrete patio or sidewalk.
11. Use your digital camera to take a picture of the bottles and the money. Take several pictures so that you can choose the best one.
12. Use photo editing software to crop and enlarge your photo as much as possible. Then print your photo as a large 8x10 image, either at home or at a photo kiosk.
13. On your photo, label the layers with numbers, with layer 1 being at the top surface, and numbering until you reach the bottom layer.
14. Using a metric ruler, measure the width of each layer and piece of money in your photo, using millimeters (mm). Write the measurements in a data table, like this one: **Continued on Page 8**

## American Federation of Mineralogical Societies News

### Do You Belong?

[AFMS Newsletter Volume 65, Number 1, November, 2011](#)

Your membership can make a difference as ALAA communicates with BLM, local officials or Congress. The organization can be much more effective just by having a larger membership... "We speak for 50,000 members carries much more authority than we speak for 10,000.

Dues are \$25 per year. Clubs can join for \$50 per year. An application can be found by visiting the ALAA website <http://www.amands.org>

Your membership brings you a newsletter each quarter as well as e-mail updates notifying you of pending legislation, hearings, and yes, even "victories" as the organization works to keep collecting areas open for collectors.

## Midwest Federation of Mineralogical Societies News

### Presidents Message by Cindy Root

MWF News December 2011 - ISSUE NO. 507 [Click on this link to see the entire newsletter](#)

Fortunately, or unfortunately, depending on how you look at it, December is here. Now is the time to reflect upon the past year, but also a time to start planning for the new year ahead. With Christmas just around the corner, this is the perfect time to share your aspect of the rock-hounding hobby with those around you. There is the option of giving a hobby related gift, or introducing someone new to your hobby.

Remember, too, that with the new year come the various contests held by our federation. All American, Bulletin, Articles, Website, and probably more I can't think of at the moment. Why not take the time and prepare an entry for one of these? Participation has dropped off over the years and we really need to revive these activities. I participated in the rock tumbling contest. Had a wonderful time even though I didn't win, but I've gained a new hobby that I'm having lots of fun with. At least think about participating—and I mean more than two seconds—you might actually enjoy yourself.

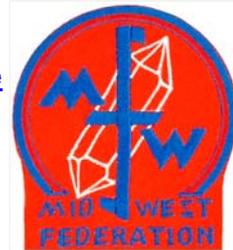
Continued on Page 8



### Purpose of the AFMS

To promote popular interest and education in the various Earth Sciences, and in particular the subjects of Geology, Mineralogy, Paleontology, Lapidary and other related subjects, and to sponsor and provide means of coordinating the work and efforts of all persons and groups interested therein; to sponsor and encourage the formation and international development of Societies and Regional Federations and by and through such means to strive toward greater international good will and fellowship.

[www.amfed.org](http://www.amfed.org)



### Purpose of the MWF

To promote interest and education in geology, mineralogy, paleontology, archaeology and lapidary, and to sponsor and provide means of coordinating the work and efforts of groups interested in these fields.

[www.amfed.org/mwf](http://www.amfed.org/mwf)

## Coming Events

2012

**January 12:**  
**BLOOMFIELD HILLS, MI**  
 Michigan Mineralogical Society's annual Auction & Sales Event, Cranbrook Institute of Science Auditorium (lower level), 39221 N. Woodward Ave., Mon. 6:30 PM Viewing & Table Sales, 7:00-8:30 Auction, Contact: Mildred Hurt, 1211 E. Maxlow, Hazel Park, Mi. 48030, (248) 398-6693 E-mail George at georgematyas@att.net

Just a reminder that Tradewinds is selling off their inventory on Saturday(s) for the rest of 2011 from 10 am – 4 pm. Please call 574-215-1765 for information. They are located at 1407 S Nappanee (SR19) Elkhart, IN

## More sales in 2012

# Dinosaur Ridge Trip Report

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Being an avid collector I noticed a very recent rock fall that appeared to intersect the same rock layer as the layer located behind the fence. Sure enough there were several tracks exposed. I may have been the first person to ever touch this track. This was definitely a once in a lifetime experience. I want to take this spot to remind everyone to be respectful and never try and collect something like this. Without the right tools you would destroy the track and without permission you might (and should) wind up in jail or fined. These belong to everyone.

### Geology

At the top of the Ridge, a switchback curve cuts through showing the geologic structure of the Hogback. Two scenic overlooks, east and west, are places to study the geology of the Front Range or to just sit back and enjoy the view. Interpretive signs at the curve highlight the Denver Basin, oil and gas production, the Golden Fault, and the uplift of the Rocky Mountains

I would like to thank Joe Tempel for permission to use the information from the Dino Ridge website and suggest everyone at least visit the website to see all the other pictures and articles. <http://www.dinoridge.org/index.html>

Jason Hefner

## 12 Days Geology Days of Christmas

On the first day of Christmas my true love sent to me, [a gas field in the North Sea](#).

On the second day of Christmas my true love sent to me, [two turbidites](#) and a gas field in the North Sea.

On the third day of Christmas my true love sent to me, [three trilobites](#), two turbidites, and a gas field in the North Sea.

On the fourth day of Christmas my true love sent to me, [four phenocrysts](#), three trilobites, two turbidites, and a gas field in the North Sea.

On the fifth day of Christmas my true love sent to me, [five fossil fish](#), four phenocrysts, three trilobites, two turbidites, and a gas field in the North Sea.

On the six day of Christmas my true love sent to me, [six slickensides](#), five fossil fish, four phenocrysts, three trilobites, two turbidites, and a gas field in the North Sea.

On the seventh day of Christmas my true love sent to me, [seven seismic waves](#), six slickensides, five fossil fish, four phenocrysts, three trilobites, two turbidites, and a gas field in the North Sea.

On the eighth day of Christmas my true love sent to me, [eight echinoids](#), seven seismic waves, six slickensides, five fossil fish, four phenocrysts, three trilobites, two turbidites, and a gas field in the North Sea.

On the ninth day of Christmas my true love sent to me, [nine nunatacks](#), eight echinoids, seven seismic waves, six slickensides, five fossil fish, four phenocrysts, three trilobites, two turbidites, and a gas field in the North Sea.

On the tenth day of Christmas my true love sent to me, [ten Turitellas](#), nine nunatacks, eight echinoids, seven seismic waves, six slickensides, five fossil fish, four phenocrysts, three trilobites, two turbidites, and a gas field in the North Sea.

On the eleventh day of Christmas my true love sent to me, [eleven laccoliths](#), ten turritellas, nine nunatacks, eight echinoids, seven seismic waves, six slickensides, five fossil fish, four phenocrysts, three trilobites, two turbidites, and a gas field in the North Sea.

On the Twelfth day of Christmas my true love sent to me, [twelve welded tuffs](#), eleven laccoliths, ten turritellas, nine nunatacks, eight echinoids, seven seismic waves, six slickensides five fossil fish, four phenocrysts, three trilobites, two turbidites, . . . and a gas field in the North Sea.

The links in the words will take you to an explanation of each of those items.

Collected December 11, 2011, composed by Chris Nedin, Sunday, December 21, 2008.

<http://ediacaran.blogspot.com/2008/12/twelve-geology-days-of-christmas.html>

## Presidents Message

Continued from page 5

The new year is also the time for club renewal and adding to the event calendar. Please be certain to get your information to Martha Miss, Directory Chair, by January 15. If you have shows scheduled for January, February or March, please send me that information so I can make certain it's on the website early enough to get people in your doors.

Looking to the year ahead, our spring meeting will be held in Ft. Dodge, Iowa, in conjunction with the show put on by the River Valley Rockhounds during the last weekend of April. More information will be coming your way in the very near future. Please plan now to attend.

Finally, let me take this opportunity to wish all of you a Very Merry Christmas. Here's hoping the holidays will be a time of family, friends, fun, and laughter for each of you.

## How are sedimentary rocks formed?

Continued from Page 4

Layer	Thickness (mm)	Description (color, shape, consistency, etc.)
1		
2		
3		
Penny		
Nickel		
Dime		
Quarter		

- Using your picture and your baggies of starting material, compare each layer to the original sources. Does the number of layers that formed match the number of sources? Do any of the layers look like one of the original sources? Do any of the layers look like a portion of one of the original sources?
- Think about the different thicknesses and ordering of the layers. Is there a difference between things that ended up on the bottom compared to things that ended up at the top? Which layers do you think settled first, or last, and why?

Collected December 8, 2011 from [http://www.sciencebuddies.org/science-fair-projects/project\\_ideas/Geo\\_p013.shtml?fave=no&isb=cmlkOjEzMdA5ODk4LHNpZDowLHA6MSxpYTpHZW8&from=TSW](http://www.sciencebuddies.org/science-fair-projects/project_ideas/Geo_p013.shtml?fave=no&isb=cmlkOjEzMdA5ODk4LHNpZDowLHA6MSxpYTpHZW8&from=TSW)  
Credits: Sara Agee, PhD, Science Buddies

