



Eastern Indiana Gem & Geological Society **September 2016** **ROCK PICKINGS**

P.O. Box 1724 • Richmond, IN 47375 • eiggs.weebly.com • facebook.com/EasternIndianaGemGeologicalSocietyEIGGS

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Memberships:

Annual dues
\$15 Individuals
\$20 Families

Please send dues to:

EIGGS
PO Box 1724
Richmond, IN 47375

6 Next meeting: Thursday, October 6, 6:30 p.m.

PRESIDENT'S MESSAGE

Hello, Rockhounds,

Our next Club Clean-up Day is Saturday, October 22 from 10 a.m. - 1p.m. Projects include: resurfacing and painting upstairs hallway, clean behind small garage and close up the wall around the air conditioner. Lunch will be provided.

THINK PINK SHOW & TELL

When: at Oct. 6 meeting
Who: Club members
What: Bring a favorite pink stone to share with others in the club.

October is Breast Cancer Awareness Month, so this month bring a pink stone -- rough, cab, slab or jewelry -- to the club for Show & Tell. This is a great chance to get to know your fellow club members, see some interesting stones and hear some good stories. Look for more pink stones in the Oct. issue.

• Check out the Ft. Wayne show flyer on page 13. What a great theme and a great cause to support!

A number of members seemed interested in resurrecting the club holiday bazaar. Lisa Morris sent out an e-mail to get a head count of members interested in being vendors; however, only three people replied. At this point it doesn't appear that there is enough interest, and it is getting late to plan this. If anyone is interested in planning and publicizing this event for this year, please let me know. If not, perhaps next year.

For those of you that don't know, Charlene is ill and recently had surgery. If you feel close to Charlene, I know she would really appreciate a get well e-mail or card from you.

Charlene Reidenbach *e-mail midwestchar@gmail.com*
1271 Fairfield Ave.
Brookville IN 47012



Mark

▶ INSIDE THIS ISSUE

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Clean-up Day, Oct. 22



Joe Wirrig & Judy Burton work on a saw.

PAGE 3 & 4

Two classes coming soon



Viking weave workshop Tues., Sept. 27

PAGE 6

Visit Bear's Mill



EIGGS connection with Bear's Mill

PAGE 7 & 8

Welcome 5 new members



Marla Harsh & Danny Spurgeon



Members present

Deb Chagares, Emily Gibson, Scott Gibson, Joy Ingerman, John LaMont, Mark Lisota, Lisa Morris, John Morse, Mary Ann Morse, Patrick Pierce, Mike Ragan, Danny Spurgeon, Dave Straw, Corky Zinkan, Bob Zinkan. Guests: Erna Jacob, Jeanette Lunsford, Marla Harsh

President Mark Lisota called the meeting to order at 6:34.

President's Report

Mark passed around a thank-you note from 2010 scholarship winner Katie Temple. She just graduated with a pharmacy doctoral degree from Ohio Northern. (see photo & note at right.)



Wayne County 4-H sent a thank-you letter for our donation. 4-H has asked for volunteers to present some geology activities to 4-H members at the Boys and Girl's Club (see information on page 11.) Mary Ann and Patrick expressed interest.

Mark also discussed his recent trip to the Midwest Federation's fall meeting in South Bend. He shared information and a variety of forms and collectibles with the club.

Club Clean-up Day

A Club Clean-up Day will be held Saturday, October 22 from 10 a.m.-1 p.m. There will be a variety of jobs to do, as well as general cleaning. Lunch will be provided. We hope to re-seal the garage roof, complete the air conditioner frame, clean-up the garage, paint the hallway, secure service mast, etc.

Holiday Jewelry & Craft Fair

There are tentative plans to hold a holiday bazaar the first Saturday in November. We are in search of a venue to accommodate more club "vendor" space. This may be a project for next year.

Treasurer's Report

Expenses: \$287 (\$224 utilities, misc.)
Income: \$143.7 (\$70 dealers; \$62 shop; \$11 soda)

Dave mentioned someone tried to scam him into giving them the bank account number. Dave advises using caution in your personal financial relationships.

Other News

Charlene is not feeling very well. She would appreciate cards,

Eastern Indiana Gem & Geological Society,
Hello, my name is Katie Temple, and about six years ago I received a scholarship from you all for college. I just wanted to let you know that this past May I graduated from Ohio Northern University with a Doctor of Pharmacy degree. Last month I passed my board exams, and now I am a licensed pharmacist in Ohio. I now work as a pharmacist at CVS pharmacy in Doylestown, OH (northeast Ohio). I met my fiancé at school while on a mission trip with Habitat for Humanity. We are getting married on September 3, 2016, and will live in Wooster, OH. I just wanted to say thank you for your support and financial help to make my dream of becoming a pharmacist come true!
Thanks,
Katie Temple

e-mails and good thoughts. (e-mail midwestchar@gmail.com)
Charlene Reidenbach
1271 Fairfield Ave.
Brookville IN 47012

Show Report

\$1,100 received this month; three still due to pay.

Scholarship

Lisa Morris will distribute scholarship information to the schools this month or in October.

Visitor Introductions

Danny invited Erna Jacob, Jeanette Lunsford and Marla Harsh. All three joined the club after the meeting. (see pages 7-8)

They enjoy collecting rocks from the Whitewater River and would like to explore lapidary work. They also enjoy collecting arrowheads and axe heads and are looking for hobby. They are interested in jewelry-making, too.

Deb motioned that the meeting be adjourned. Danny seconded the motion. The meeting was adjourned at 7:03 p.m.

After the meeting, a piece of Maury Mountain Jasper was auctioned and yielded \$35 for the club. Thanks to the "anonymous" donor!

Show and tell followed the auction.

CLUB CLEAN-UP DAY TO BE HELD OCT. 22

With an older building, there is always upkeep and maintenance to be done. This fall we will hold a series of club clean-up days and would appreciate your help. The first Clean-up Day will be held Saturday, October 22 from 10 a.m. until 1 p.m.

There are a wide variety of projects on the "to do" list, from skilled work to general labor and cleaning. Lunch will be provided for all who attend.

Below are some of the items that should be addressed at some point, although not all of them will be completed at this work day. If you have expertise in any of these areas, please let an officer know. On Oct. 22 we hope to re-seal the garage roof, complete the air conditioner frame, clean-up the garage, paint the hallway, clean up the lapidary lab and saw room, and secure the service mast.

UPCOMING PROJECTS:

- re-seal garage roof
- finish air conditioner installation/sealing
- scrape & paint hallway & stairway
- re-attach electrical lead-in to building
- replace outside doors, upstairs and downstairs
- finish work on the outside cellar door and stairs
- continue roof maintenance to find/seal leaks
- fix sagging lapidary lab ceiling
- clean eaves and gutters
- clean out rock garden area
- fix women's restroom ceiling & floor
- remove garage ceiling insulation
- brace soft spot in hall floor
- examine balcony bracing
- new sign for outside the building



■ The suspended ceiling in the lapidary lab needs some maintenance, and the room itself could use some general cleaning and organizing. No matter your skill level, there will be something for you to help with during the Oct. 22 Club Clean-up Day.

VIKING WEAVE WORKSHOP OFFERED SEPTEMBER 27

Trichinopoly chain, also known as Viking weave chain, or Viking knit chain, is luckily much easier to create than to pronounce.

To help members learn, Danny Spurgeon is offering a two-hour Viking knitting workshop at the club house on Tuesday, September 27, from 6-8 p.m. The workshop cost will be \$10 per person. To register for the workshop, e-mail Danny at joseph_6841@yahoo.com

In the workshop, each participant will create a Viking weave bracelet to take home. Enough wire to complete the project will be provided, and dowel rods and draw plates will be available for use in the workshop.

Club members who want to learn advanced techniques, such as how to wrap a cabochon, how to integrate colors into the weave or how to create a flat woven bracelet, may sign up for a second, more advanced

workshop. A date hasn't been set yet for the second advanced workshop.

Participants may buy extra wire from Danny for \$8-9 per spool. He has wire in a variety of colors and gauges. He has dowels for sale for \$1 and Corian draw plates for \$10.

According to sources online, Viking weaving was a process used by Anglo-



Alexandra Shariff Designs www.etsy.com/shop/AlexSharDesigns
<http://www.jewelrylessons.com/tutorial/viking-knit-chain>

Saxon Norse mainly during the 8th Century through the 10th Century.

This type of wire weaving has been found in ancient graves and treasure hoards. It was used for necklaces, bracelets, edging for clothing and artistic trim.

Wire weaving has also been found in Roman, Greek and Byzantine archaeological digs from the 1st century B.C. to 4th century A.D.



WIRE WRAPPING WORKSHOP OFFERED, OCTOBER 29



pendants by Deb Chagares
photos by Jim Chagares

Wire-wrapping can turn your cabochons into wearable art. Learn the techniques to make pendants, earrings or other ornaments at a wire-wrapping workshop offered Saturday, Oct. 29, from 10 a.m.-1:30 p.m. at the EIGGS club house.

Deb Chagares will teach this members-only class. The class will cost \$30 per participant. Enrollment is limited to 15 people, so please register in advance. To register, send an e-mail to deb@chagaresphotography.com

You may pay on the day of the class. You will need to bring your own supplies (*see list*). Deb will also have some extra tools available for participants to use.

Deb suggests purchasing craft wire from www.ParaWire.com. They have low prices and a variety of colors to choose from. They do have a minimum order, so you might order with a friend. They ship very quickly, too.

Go to ParaWire.com, then navigate to the Craft Wire/Shaped Wire section. You should purchase:

21-gauge **SQUARE** wire for framing your piece &
18-gauge **HALF-ROUND** wire for binding it.

What: Wire-wrapping class

When: Oct. 29, 10 a.m.-1:30 p.m.

Who: Club Members

Supply List: *Participants must bring their own supplies*

- Square & half-round wire (see story for details)
- Flat nose pliers (no gator-teeth)
- Round nose pliers (no gator-teeth)
- Cutters
- Ruler
- Fine tip Sharpie marker
- Painters tape (blue is good)

The following would be useful, (but not necessary)

- Small file (a nail file)
- Polishing cloth
- Mouse pad
- Small knife or pick to lift wires
- Small dowel to flatten wires
- Bail gauge
- Nylon jawed pliers

DO YOU HAVE SUGGESTIONS FOR EIGGS CLASSES OR WORKSHOPS?

Several new members have been asking about classes or workshops. Summer is busy for everyone, but fall is a great time to either teach or take a class.

In order to plan for classes, we need to know what you are interested in. What do you want to learn? What would you like to teach?

In the past year, Deb Chagares taught wire-wrapping, Danny Spurgeon taught two Viking weaving sessions, and Mary Ann Morse taught members to make gemstone trees.

Naomi Jones is willing to teach a wire-weaving class if people are interested. Perhaps Marty Lucas would teach club members to make tree of life pendants or Joy Ingerman could teach wire-wrap rings or beading basics?

If there is a skill you would like to learn, please send a request to EIGGSnews@gmail.com, and we will try to find a club member to teach it.

If you have a skill you would like to share with the club, again, please e-mail EIGGSnews@gmail.com so that we can arrange for class times, supplies and registration.



Wire weaving



Tree of life pendant



Gem tree



Viking weaving



Wire-wrap



■ The 2016 artwork features three iconic Pleistocene ("ice age") animals from the United States: a saber-toothed cat, long-horned bison and a condor flying above. The landscape is an idealized representation of southern Nevada within what is now Tule Springs Fossil Beds National Monument.

➔ NATIONAL FOSSIL DAY, CELEBRATED OCT. 12

from <http://nature.nps.gov/>

The National Park Service and the American Geosciences Institute are partnering to host the seventh annual National Fossil Day on October 12, 2016, during Earth Science Week. National Fossil Day is a celebration organized to promote public awareness and stewardship of fossils, as well as to foster a greater appreciation of their scientific and educational value.

Fossils discovered on the nation's public lands preserve ancient life from all major eras of Earth's history, and from every major group of animal or plant. Fossils in the national parks range from primitive algae found high in the mountains of Glacier National Park, MT, to the remains of ice-age animals found in caves at Grand Canyon National Park, AZ. Public lands provide visitors with opportunities to interpret a fossil's ecological context by observing fossils in the same place those animals and plants lived millions of years ago.

National Fossil Day activities will also highlight natural processes that shape our planet over time to correlate with this year's Earth Science Week theme, "Our Shared Geoh heritage." Geoh heritage is the collection of natural wonders, landforms and resources that have formed over eons and come to this generation to manage, use, and conserve effectively. Geoh heritage locations are valued for many reasons, including scientific, economic, ecological, educational, cultural, aesthetic, artistic, and recreational purposes. (<http://www.earthsciweek.org/>).

National Fossil Day is being promoted through partnerships with professional organizations, government agencies and other groups. Representatives from National Earth Science Teachers Association and Paleontological Research Institution are assisting with planning for National Fossil Day.

🐾 SABER TOOTHED CATS

from <http://nature.nps.gov/>

Starting in February 2016, the National Fossil Day website began featuring a different Pleistocene Partner each month. These partners preserve fossils and their stories from the Pleistocene Epoch, the slice of geologic time spanning from 2.58 million (2,580,000) to 11,700 years ago.

The saber-toothed cat *Smilodon fatalis* is a well known fossil but just one of many predatory cats of the Pleistocene in North America as lions, cougars, jaguars, lynx and cheetah also lived here. You would be hard pressed to find a fossil feature that says, "I'm a predator!" more than the massive canines of *Smilodon*.

The namesake teeth were about seven inches long. The entire animal was more than three feet tall and weighed between 350 to 600+ pounds.

Smilodon fatalis is best known from the La

Brea Tar Pits near Los Angeles, and the saber-toothed cat is the state fossil of California. Saber teeth have a rich fossil record going back tens of millions of years in cat-like animals such as nimravids from John Day Fossil Beds National Monument in Oregon.



■ Visitors can check out the skeleton of a saber tooth cat, *smilodon fatalis*, at the Joseph Moore Museum on the Earlham College campus.

Word origins

Smil comes from the Greek work for knife or chisel and *odon* is a Greek term referring to teeth. *Fatalis* was derived from the Latin word for "of destiny." The words "fate" and "fatal" use the same word root. Many herbivores met their fate soon after meeting the teeth of the *Smilodon*!

🗨️ Now It's Your Turn

Remember: Rock Pickings is YOUR newsletter, and it needs YOUR articles. Please consider writing about your favorite rocks or minerals, trips you have been on, shows you've attended and other geological topics of interest.

Let me know in advance what you plan to submit, and submit it by the 15th of any month. E-mail articles and photos to EIGGSnews@gmail.com or mail them to EIGGS Newsletter, PO Box 1724, Richmond, IN 47375. Thanks!

ON THE ROAD: BEAR'S MILL, GREENVILLE, OHIO

EIGGS member Jan Roestamadji is the volunteer Gallery Coordinator at the historic Bear's Mill in Darke County, just outside of Greenville, Ohio. The Clark Gallery is located in the original 1849 grist mill, which is now run by The Friends of the Mill.

The mill is one of the few working water-powered mills still operating in Ohio. Bear's Mill still grinds grain into flours and meals, using the same cool grind practices as old world millers. Grain is carefully passed through the French Buhr millstones to produce a healthy, whole, minimally processed products.



Visitors can tour the mill Tuesday through Saturday 11 a.m.-5 p.m. and Sundays 1-5 p.m. You can also visit the gift shop and gallery.

The rustic setting is home to a series of curated displays of area artists from Indiana and Ohio or those who have once claimed either as their home. Each six-week exhibition features two artists: one 2-D and one 3-D.

Roestamadji says, "Artists are chosen for each exhibition to provide both 2-D and 3-D works that intrigue, inspire and encourage esthetics in visitors of the Mill."

An artists reception is held on the opening day of each exhibit. The receptions run from 6-9 p.m. and they are open to the public. Light refreshments from local restaurants are served. Each artist will conduct a Gallery Talk to share their passion and process with the public at 7 p.m. during the reception.

Cutting Edge Hoosier Creativity Now - Oct. 2:

- Lynette K. Waters-Whitesell: mixed media on canvas and panel featuring digital transfers of yesteryear.
- Kim Anderson: Organic vessels: high fired porcelain that is both figurative and functional.

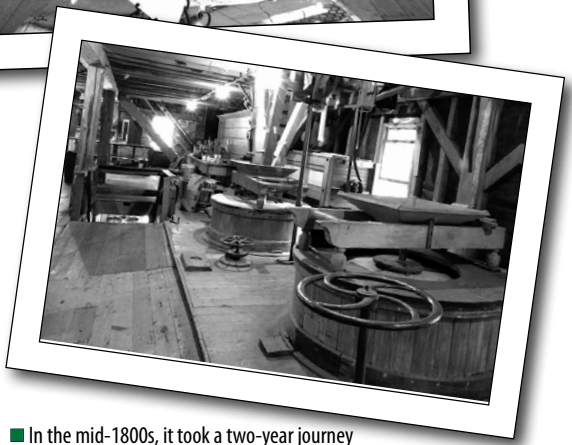
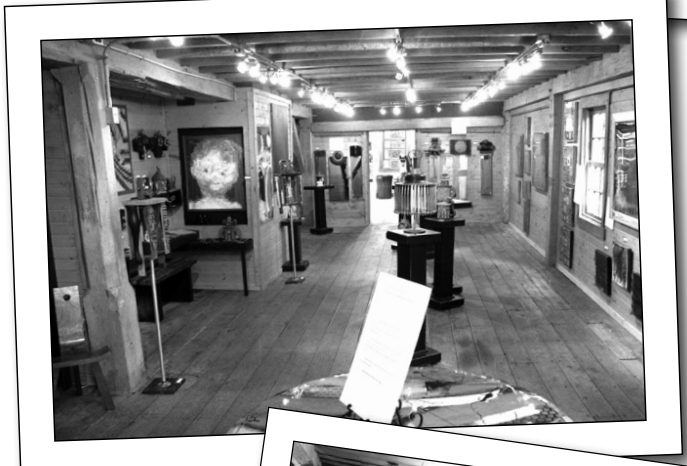
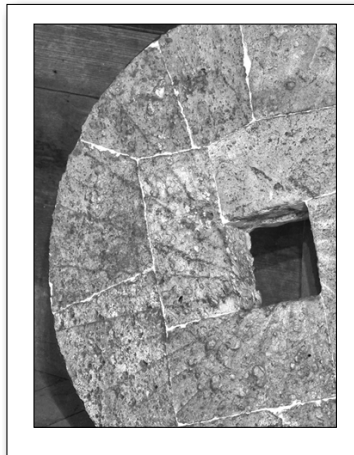
Time for Tea and Fantasy Oct. 7 - Nov. 5

- Amy Kollar Anderson: Fantasy drawings and paintings in flowing designs.
- Millrace Potters Collective: Brewed: the Art of Tea and Coffee Vessels.

Seen and Unthrown Nov. 18 - Dec. 31

- Margie McCollough: Creative photographs that engage the viewer.
- James McCollough: Multi-media paintings created in graphic patterns, bold colors and textures.
- Millrace Potters Collective "Unthrown": An exhibit of claywork not made on a wheel.

■ For more information on this historic mill visit their web site: bearsmill.com



■ In the mid-1800s, it took a two-year journey to France for Gabriel Baer to bring the three French buhr stones to Bear's Mill. Imported French buhr were much sought after by old world millers for their abrasive and porous qualities, which resulted in a slow, cool grinding process. For more information on this historic mill visit bearsmill.com
Photos courtesy of Bear's Mill



WELCOME, NEW MEMBERS!

September brings five new members to EIGGS!



■ After an evening in the lapidary lab, new members Marla Harsh, Malessia Bowling, Erna Jacob and Jeanette Lunsford show off their newly created cabochons. They began by learning about the equipment and then creating ovals, rectangles and hearts.

Marla Harsh

Occupation: school bus driver; Centerville-Abington Community Schools

Location: Milton, IN

How did your interest in stones develop?

We own land on the West Fork of the White-water River and have always collected the rocks; it is like finding treasures.

All in the Family

- Marla & Jeanette are sisters.
- Malessia & Charles (see page 7) are their parents.

What do you hope to learn?

I hope to develop my knowledge of rocks/stones and jewelry.

What have you

learned so far? Cutting stone and grinding on the first wheels

Hobbies or interests? Sewing, photography, hanging out at the river with the family.

Anything else? Three German shepherds outside; four children all grown; three grandchildren. My husband enjoys finding and looking at different rocks at the river but has no time for class. We love to travel out west; the west is our favorite.

Jeanette Lunsford

Occupation: driver supervisor, DOT Foods

Location: Centerville, IN

How did your interest in rocks, gems or minerals develop? When traveling, I was intrigued by the variation of stones.

What do you hope to learn? I hope to learn how to make jewelry and work with stones.

What areas interest you most? I am most interested in learning how to create art with stones.

What have you learned so far? So far I've learned about cutting stones and the grinding wheels.

Hobbies or interests? Gardening and grandchildren. I really love travelling. When I was driving trucks I was able to see many places and was able to collect rocks along the way. I now have a long list of places I want to go back to when I have the time.

Anything else you want to share? We have a German shepherd -- "Whiz kid."

Erna Jacob

Occupation: retired

Location: Richmond, IN

How did your interest in rocks, gems or minerals develop? I have been to rock and gem shows here in Richmond and enjoy looking at beautiful stones.

What do you hope to learn? I would like to learn more about rocks and gems.

Hobbies or interests? I love to crochet have made a lot of gifts for family and friends and also sold some of my work.



■ Eyes on the slab, Erna Jacob uses the trim saw to cut out her second cabochon.



WELCOME, NEW MEMBERS!

continued from page 7

Malessia Bowling

Occupation: retired

Location: Connersville, IN

How did your interest in rocks, gems or minerals develop? My interest in rocks and gems started as a young girl living on a farm and wandering in the woods with other kids to explore nature. Splashing in the creeks was neat as we looked for fossils. We live now on a farm that has three creeks and 133 acres of woods and lots of fossils.

What do you hope to learn? I would like to learn how to identify rocks and gems.

What areas interest you most? I am most interested in learning how to take a rock and create a beautiful piece of art to share with friends.

What have you learned so far? I have learned to identify the tools I will need to use to create my beautiful finished product. Also I have learned to cut and polish my stone, --and how important it is to keep your item wet. Cleaning up is real important, as well as makings sure all machines are stored in proper places for next group of "rockers."

Hobbies or interests?

My hobbies are oil painting, sewing and gardening.

Anything else you want to share? The neatest thing about joining EIGGS is that my family decided to join with me, and we have had so much fun sharing our experiences and, of course, trying to talk each other out of their beautiful rocks. We even traveled to the Greenfield rock and gem show. It was so neat. We came home with a big bag full. I think we have Rock Fever. Thanks for the opportunity.



■ Marla Harsh uses a flashlight to check out a bi-colored piece of fluorite at the August meeting. ■ Jeanette Lunsford examines her second cabochon. ■ Malessia Bowling pauses for a photo while cutting slabs on the trim saw.

Charles Bowling

Occupation: retired master tool & die maker and lifetime farmer

Location: Connersville, IN

Most of my friends call me Dave. I am a quiet guy, and the girls thought I would make a good "rocker," as they call themselves now.

I was raised on a farm and my family often found arrowheads as we farmed. I would like to learn about rocks and minerals we have in our home state.

My first night we were instructed on what the club was about and learned what each machine was called and the job they performed. It is little like my former job but more interesting, and the end result looked



a lot better.

Since retiring this is the best hobby I have discovered and having fun with my wife and daughters is pretty nice.

Polyhedral AGATES

Polyhedral agate is agate which has grown in a flat-sided shape similar to a polyhedron. When sliced, it often shows a characteristic layering of concentric polygons. Polyhedral agate is thought to be found only in Paraíba State, Brazil. It has been suggested that growth is not crystallographically controlled but is due to the filling-in of spaces between pre-existing crystals which have since dissolved.

www.wikipedia.com



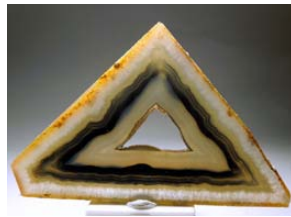
Polyhedral Agate, Brazil



Polyhedral Agate, Brazil



Polyhedral Agate, Brazil

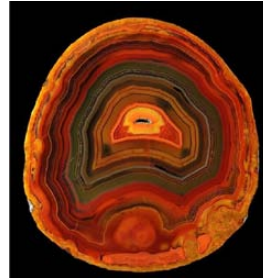


Polyhedral Agate, Brazil

Fortification AGATES

Fortification agate is the most common and recognizable type of agate. Bands of color form concentrically surrounding a hollow cavity (sometimes there is a minimal cavity or no cavity). The name is derived from the appearance of the bands. If you cut one of these agates in half and look down on the bands, they will appear like a fortification structure around the cavity in the center.

www.gemstonesadvisor.com/types-agate/



Fightblood (Fighting Blood) Agate, China



Laguna Agate, Mexico



Botswana Agate



Condor Agate, Argentina

Seam AGATES

Seam agates do not form in round pockets, but rather in narrower gaps within a rock (thus their name). They typically have rows of chalcedony bands, but are unlikely to form those bands in a circular fashion or have any special interior.

www.gemstonesadvisor.com/types-agate/



↑ Lobster Hole Cove Seam Agate, Nova Scotia



↑ Keeveenaw Seam Agate



← Alabama Blue Seam Agate (aka Clark County Seam Agate)

Water Line AGATES

This type of agate is also known as "Water Level" agate. This type of agate forms in such a way that gravity permits the bands to form in a straight parallel formation in one direction.

www.gemstonesadvisor.com/types-agate/



Queensland Agate, Australia



Queensland Agate, Australia



Brazilian Waterline Agate



Waterline Agate

Glacial Erratics: Marker Rocks from Distant Places



Erratics are rock fragments, ranging in size from cobbles to massive boulders, that eroded from a bedrock outcrop and were transported by glacial ice. These rocks are deposited some distance down-ice in an area of differing bedrock. They tend to be faceted with a characteristic “bullet” shape, indicating glacial transport. Erratics found in the

glacial sediment across northern Indiana can be granite, gneiss, marble, quartzite, and basalt, as well as other igneous and metamorphic rocks.

Erratics are generally considered to be a nuisance, especially by farmers who must clear fields. But some gravel pit operators have found a ready market for “fieldstone” cobbles and larger boulder erratics for landscaping, architectural, and specialty construction. Erratics also help geologists reconstruct the flow directions of glacial ice.





4-H SEEKS VOLUNTEERS FOR GEOLOGY

The Wayne County 4-H office wants to promote the geology projects to its members. They would like our club to continue our involvement with their Super Saturday programs in the spring and also wonder if we would like to help promote the geology projects at the Wayne County Boys and Girls Clubs this year.

Once a month they go to four different locations and spend an hour at each working with 3rd, 4th and 5th graders on a variety of different projects.

They would like our help covering geology one or more times over the course

of the year. We need to think about what we could teach the 4-H members and how it fits into their projects. Please contact Patrick Pierce or Mary Ann Morse with ideas. Their contact info is on page 1 of this newsletter. For a complete list of projects, see below. Which ones could we help with in a one or two-hour session?

Also, Patrick is looking to come up with some hands-on demonstrations that can be used with 4-H, the Boy Scouts and the school groups. There is a strong connection between the school science standards and the 4-H categories and Scouting badge requirements. Contact Patrick if you have ideas.

4-H GEOLOGY PROJECTS CATEGORIES

Level 1: Grades 3-5

Exhibit: Display a poster or exhibit box for ONE of the following activities:

The Rock Cycle. Explain the rock cycle using both words and pictures.

Rock Types. Display rocks from the three major types: igneous, sedimentary, and metamorphic. Examples of each include: Igneous - granite, basalt, gabbro; Sedimentary - limestone, dolomite, shale, chert, gypsum; and Metamorphic - quartzite, schist, marble, slate.

Earth Processes How Rocks Change. Color and display the picture in your book or draw and color your own on your poster. Briefly describe the earth processes that are shown.

Rock Artwork. Display your rock artwork and the story that you created.

Collections. Display and identify 6-8 rocks.

Making Crystal Models. Display the crystal forms characteristic of most minerals (cubic, tetragonal, hexagonal, orthorhombic, monoclinic, triclinic) in a display box with their name and mineral with this form. You may color, paint, or use markers on your crystal models.

Molds and Casts. Display three molds and/or casts in a display box. Describe the steps that you followed to create a mold or cast.

Level 2: Grades 6-8

Exhibit: Display a poster or an exhibit box based on ONE of the following:

Rocks with Different Textures. Identify and display six rocks with three very different textures (two rocks of each general type). Include three grades of sandpaper and show how the differences in sandpaper is similar to the differences in rock texture.

Indiana Limestone. Show and label pictures or photographs of ten buildings, sculptures, or monuments made from Indiana limestone.

Mineral properties and tests. Explain the characteristics: crystal form, cleavage, hardness, appearance, and streak. Explain tests used in identifying specimens. Examples you might include are streak, acid, hardness, chemical analysis, and specific gravity.

How We Use Minerals. Show 10 common products that contain minerals. Explain the minerals that are contained in these products and the characteristic that makes them useful.

Geologic Time. Create a display to show the major geologic eras. Indicate the names, specific features, and approximate length of each.

Indiana's Glaciers. Show the extent of Indiana's three main glaciers.

Indiana Geology. Exhibit a map or sketch of Indiana showing at least ten sites with interesting geological formations. Describe the formation and

sketch or show a picture of the formation.

Field Trip. Describe a geology field trip that you took. Describe where you went and what you learned. Include photographs (if possible) or sketch what you saw.

Collections. Display and identify one of the following: 8-16 minerals, fossils, or 4-8 of each (half minerals and half fossils). You may exhibit a new collection in subsequent years but not one you have already exhibited.

Level 3: Grades 9-12

Exhibit: Display a poster (or use an exhibit box) based on ONE of the following activities:

Geology Research. Prepare a display to teach others about the topic you studied. Include an appropriate title, abstract (brief description of your topic), and photographs, drawings, charts, or graphs that help explain your topic. This activity may be repeated if a new topic is chosen in subsequent years.

Lapidary and Jewelry. Show how stones and minerals are turned into polished stones and jewelry. Show and explain the steps involved.

Miniatures. Display five miniatures in a display box and explain the benefits of collecting miniatures and how they are prepared.

Indiana's State Parks or Forests. Create a matching game of Indiana's State Parks or Forests and a brief description.

Indiana, U.S., or World Geology. Teach others about one Indiana, U.S., or World Geology topic.

Career Exploration. Prepare a display that explains your interview with someone who needs an understanding of geology to do their job.

Independent Study: Grades 9-12

Advanced topic - Learn all you can about a geology topic and present it on a poster. Include a short manuscript, pictures, graphs, and list the works cited to describe what you did and what you learned. Title your poster, "Advanced Geology - Independent Study"

Mentoring - exhibit a poster that shows how you mentored a younger 4-H member. Include your planning, the time you spent, the challenges and advantages of mentoring, and how the experience might be useful in your life. Photographs and other documentation are encouraged. Resources must be from educational or government entities.

UPCOMING SHOWS

Sept. 30-Oct. 2—INDIANAPOLIS, IN: Annual show; Treasures Of The Earth Gem & Jewelry Shows, Indiana State Fairgrounds - Ag/Horticulture Bldg; 1202 East 38th Street; Fri. 10 a.m.-6 p.m., Sat. 10 a.m.-6 p.m., Sun. 11 a.m.-5 p.m.; Adults \$5 (Good all 3 days), Children under age 16 free when accompanied by an adult. Jewelry makers, goldsmiths and silversmiths from all over the U.S. who can reconstruct, repair, design or make original jewelry from customer-selected gems, stones, opals and crystals. Wire wrap, wire sculpture, stone beads, pearls, stone setting, amber, opal, mineral and fossil dealers. Hourly door prizes including a Ring with a precious stone that will be given as a Grand Prize. Note the Fairgrounds charges \$5 per day for parking. Contact Van Wimmer, Sr. - Show Director, 5273 Bradshaw Road, Salem, VA 24153, (540) 384-6047; e-mail: van@toteshows.com; Web site: www.toteshows.com

Oct. 1-2—BELLEVILLE, MI: SuperSwap; Midwest Mineralogical & Lapidary Society of Michigan, Wayne County Fairgrounds; 10871 Quirk Rd.; Sat. 10 a.m.-5 p.m., Sun. 10 a.m.-4 p.m.; Free Admission; Swap/Sell/Buy. Free parking. Activities include: Mineral kits for kids, demonstrations, mineral ID. Indoor event. Camping available. Minerals, fossils, gems, jewelry, lapidary materials, beads, equipment, supplies, books.; contact Tom Morris Bill Barr, (313)-278-5063; e-mail: wbarr@umich.edu; Web site: www.mmls.us

Oct. 14-16—FORT WAYNE, IN: Annual show; Three Rivers Gem and Mineral Society, Allen County Fairgrounds; 2726 Carroll Rd.; Fri. 10 a.m.-6 p.m., Sat. 10 a.m.-6 p.m., Sun. 11 a.m.-5 p.m.; Adults \$5, Seniors \$3, Students \$1, Children free. Gem, fossil, mineral and jewelry dealers, lapidary arts demonstrations. Viking knit classes, geode cracker, gem sluice, kids games, door prizes, silent auction, fluorescent room and more. Contact Russell Greim, (260) 403-0450; e-mail: 3riversshow@gmail.com; Web site: bit.do/3rivers-show

Oct. 14-16—WARREN, MICHIGAN: Annual show; Michigan Mineralogical Society, Macomb Community College South Campus Expo Center; South



Campus Expo Center, 14500 E. 12 Mile Road; Fri. 9 a.m.-6 p.m., Sat. 10 a.m.-7 p.m., Sun. 11 a.m.-5 p.m.; Adults \$8, Seniors \$5, Children ages 5-12 \$4; World class museums and universities bring their collections for you to see. Authorities in geology, paleontology, mineralogy, lapidary demonstrate and present exciting finds. This year we have a skull of a Teratophoneus dinosaur as part of your photo opportunities. Family-friendly with many children activities. Dealers have specimens, supplies, equipment, for the novice to the experienced. Contact Patti Graves-Wesolosky, 1151 Yule Rd, Leonard, MI 48367, (586)-531-1680; e-mail: www.michmin.org ; Web site: www.michmin.org

Oct. 21-23—MASON, MI: Annual show; Central Michigan Lapidary and Mineral Society, Ingham County Fairgrounds; 700 E. Ash St.; Fri. 6-9 p.m., Sat. 10 a.m.-6 p.m., Sun. 11 a.m.-5 p.m.; Adults \$3, Students \$1, Children under 12 free; Displays, demonstrators, raffle, children's table, silent auction, hourly door prize, and many other activities. ; contact Sally Hoskin, 10990 Phal Rd, Grass Lake, MI 49240, (517)-522-3396; e-mail: saltoosal2@yahoo.com; Web site: www.michrocks.org

TABLES FOR SALE

The club has 12 large, heavy tables in the storage garage. Dave Straw would like to move six of them to a more convenient location and would like to send six of them away to a new home.

The tables are 30" wide x 8' long. If you would like have one of these tables, please contact Dave Straw. Contact him if you are willing to help move them, too. Call 765-966-4249 or e-mail strawdl@aol.com



YOUR HELP PLEASE

The American Federation of Mineralogical Societies is attempting to attain Birthstones on U.S. stamps. We need you to actively support and promote the project by continuing letters or notes to the USPS. You do not have to be an AFMS member to write. Please mail your *PERSONAL* letter to:

Citizens' Stamp Advisory Committee
c/o Stamp Development
U.S. Postal Service
475 L'Enfant Plaza SW, Room 3300
Washington, DC 20260-3501

Competition is stiff with about 50,000 proposals to the USPS annually. We are convinced that birthstone stamps, would be attractive. We and the public would use them, keep them, and we would all enjoy their beauty.

Don't you agree?



The Three Rivers Gem and Mineral Society of Fort Wayne, Indiana presents their 55th Annual Gem, Mineral, Fossil, Lapidary, and Jewelry Show and Sale
October is Breast Cancer Awareness Month

Pink Comes in Many Shades

Come see the world of Pink Minerals!

A Donation will be accepted to benefit the American Cancer Society.

Friday, October 14, 2016 10—6

Saturday, October 15, 2016 10—6

Sunday, October 16, 2016 11—5



Allen County Fairgrounds

2726 Carroll Road

Ft. Wayne IN 46818

SEVERAL NEW DEALERS FOR 2016!

Many old favorites will be returning as well!

Come see what they have to offer!

Explore our several displays of pink minerals from around the world.

Activities

- ⇒ Gem, Mineral, Jewelry, & Fossil Dealers
- ⇒ Club Displays
- ⇒ Mineral Identification (Sat/Sun)
- ⇒ Silent Auctions (Sat/Sun)
- ⇒ Door Prizes Hourly (Sat/Sun)
- ⇒ Fluorescent Display
- ⇒ Our Famous Grab Bags
- ⇒ Kids' Games (Starting 4 PM Fri)
- ⇒ Touch & Feel Table
- ⇒ Viking Knit Classes
- ⇒ Gem Tree and Lapidary Demonstrations
- ⇒ Special Speakers (Saturday)
- ⇒ School Day on Friday @ 9AM (By Appointment)
- ⇒ FREE Parking

Admission

Adults	\$5
Seniors (55+)	\$3
Students	\$1
Under 12	Free with paid adult
Scouts in Uniform	Free (18 and Under)



Visit our website at:

<http://bit.do/3rivers-show>

DIRECTIONS TO THE SHOW

Take I-69 to Exit 311B, take State Road 3 (Lima Road) north 4.5 miles to Carroll Road, turn left, go west to the Allen County Fairgrounds.

Sponsored by The Three Rivers Gem & Mineral Society of Fort Wayne, IN, a non-profit organization.

For more information, please contact Russell Greim (260)403-0450 or 3riversshow@gmail.com

NEW!

NEW!

2016 SOUTHEASTERN MICHIGAN GEM, MINERAL & ROCK SUPERSWAP!

Hosted by the Midwest Mineralogical & Lapidary Society

Saturday, Oct. 1 • 10 a.m. – 5 p.m.

Sunday, Oct. 2 • 10 a.m. – 4 p.m.



Wayne County Fairgrounds
10871 Quirk Rd., Belleville MI
(I-94 to Exit 190, W on N. Service Drive,
N on Quirk to Fairgrounds on right)



SWAP! SELL! BUY!

**Minerals • Fossils • Gems • Jewelry • Lapidary Materials
Beads • Equipment • Supplies • Books • and more!**

PUBLIC INVITED!

FREE Admission!

FREE Parking!

Many restaurants nearby!

INDOOR EVENT – Rain or Shine!

Camping available – contact
Fairgrounds Office at 734-697-7002



ACTIVITIES

including:
Mineral Kits for Kids
Demonstrations
Mineral ID
Others TBA

Tables \$35/2 days, \$20/day (if available). For info about reservations, etc.,
call 313-278-5063 or email wbarr@umich.edu