

# Wayne County Gem and Mineral Club News

April, 2016

Always Looking for Places to Dig!



*You do get wet with the new club hand polisher, but it works like a charm. What a fine March day we had. See you April 9.*



Website

<http://www.wcgmc.org/>



**April birthstone**



**Herkimers and "real" diamonds.**

## Next Club Meeting Friday April 8<sup>th</sup>, 7:00 PM

Presbyterian Church, Maple Court, Newark, NY

### PROGRAM: Green Minerals

Bring in some green minerals to show, share and enjoy.

(malachite, fluorite, beryl, tremolite, epidote, amazonite, diopase, apophyllite, jade, moldavite, to name a few). Oh, and willemite under UV short wave light counts too!

Lots of field trip information to share also. **Come join us for the official opening of the WCGMC Field Season on April 1 at Ace of Diamonds Mine in Middleville.** They open at 9 AM.

For full detail on upcoming trips, see page 7.

### Club Workshop, Saturday, April 9<sup>th</sup>

Bring your rocks to saw and polish. The workshop is open to all paid club members; we do ask for \$5/visit from each adult to help maintain equipment.

When: 10:00 AM til mid afternoon, Sat. April 9<sup>th</sup>

Where: The Weiler's Barn and Club Workshop  
6676 E. Port Bay Rd, Wolcott, NY

Rules: BYOR (Bring your own rocks) to saw, grind, polish or even facet. Training on equipment is available. Eye protection is recommended.

### HIGH RESOLUTION STRATIGRAPHY OF THE DEEP RUN SHALE MEMBER (MOSCOW FORMATION) ACROSS THE FINGER LAKES OF NEW YORK: A REINTERPRETATION OF BASIN AXIS DEPOSITION

Stephen M. Mayer  
Gordon C. Baird  
Frederick M. Haynes



GSA Regional Meeting, March, 2016

At our March meeting we were treated to a practice talk of Stephen Mayer and Fred Haynes talk that Stephen subsequently presented at the Geological Society of America regional meeting in Albany on March 23<sup>rd</sup>. Stephen introduced two new traceable stratigraphic units that can assist geologists in understanding the regional trends during the deposition of the Deep Run Member. From Buffalo to the Finger Lakes, the talk drew on sites we frequent when seeking Middle Devonian invertebrate fossils (Jaycox Creek, Green's Landing, Menteth Gully, Kashong Creek and many more). You can expect a trip to a new site (Indian Creek on Seneca Lake) this summer.

**Continued on page 4 (see GSA Abstract)**





## Mineral Musings by Fred Haynes



### Creativity at the WCGMC Workshop



**One side of the WCGMC workshop at a typical Saturday workshop:** From left to right, Christine, Bill, Gary, Scott, Glenn, Bill, and Linda. Notice the sphere machine working in the lower left and all the spheres on the shelf behind.

If you have yet to visit the Wayne County Gem and Mineral Club workshop in Wolcott during one of the club's monthly Saturday events, then you are missing out on the opportunity your club membership provides you to saw, slab, grind, and polish rocks into cabochons, spheres, or whatever geometric (or non-geometric) design you wish. Not to mention the camaraderie provided when 10-15 or more rock hounds come together to partake in such activity. But there is even more you are missing. Each month we convene it seems that our Workshop Coordinator, Glenn Weiler, has managed to introduce something new and creative to the shop.

Last spring and into the fall his focus was on sphere machines, first a small one with products that, well, to be honest probably did not measure up to the technical definition of spheres (translation, they were oblong). But, Glenn fixed all that with a little tinkering, and upon our return he was creating spheres to the eye that also stood up to the test of the caliper to the millimeter. Two inch perfect spheres of green jade, blue sodalite, and red hematite-laced agate models of Earth or Mars now accompanied the polished pyramids of previous years. But that was not sufficient and when we appeared in November the shop featured an Erector-set appearing machine capable of producing Jupiter-sized spheres. He is still working on a Saturn machine complete with rings. OK, well maybe not, but I would not be surprised.

The early sphere machines required continued user interaction. The spheres had to be brushed with grit-laden water periodically or they would dry out between

the polishing pads. Glenn solved that late last year by simply placing a chain on a pulley aside the motor that drove the polishing cups. This chain ran from the water up to the polishing pads and back down, effectively and continuously transporting polishing fluid to the sphere. This automated lubricating process allows the user to work on another project while the sphere was being polished.



**Above: manual lubrication required with brush**  
**Below: chain pulls grit and mud up to sphere.**



With sphere making conquered and three operating machines in the workshop, Glenn turned his imagination to another aspect of lapidary/mineral collecting: how to display the creations. He had purchased a "new" antique glass fronted display case at a yard sale and considered how to populate it. After inserting LED chain lights (opting for blue) it was time to mount the specimens. We all know we can buy very nice inch or two inch plexiglass squares sold expressly for mineral display and use mounting clay to orient pieces as desired.



But that is not very creative and Glenn had a novel idea. He visited the small tile aisle of a big box home improvement store and picked out a few sheets of mosaic tiles. Hexagonal, rectangular and square shapes are available. They come in clear acrylic, white porcelain and in just about any color you might prefer. You can acquire about 100 of the smaller tiles in a square foot and do so for around \$10. Sure mounting clay works, but if you can hold a sneaker together with "shoe-goo" it ought to work on minerals also. It does.



WCGMC workshop has a new display case with some creative twists. A. cabinet with blue LED chain lights, B. minerals mounted on mosaic tiles, C. hexagonal and rectangular mounting tiles, D. Yep, just a squeezable tube of good old "shoe-goo"

## Another Member Award

In March, the Sodus Chamber of Commerce named Bill and Rita Lesniak as Sodus 2015 Citizens of the Year, noting their participation across the community, in schools, in organizations, and in their church. Of course, this does not come as too much of a surprise to those of us who know them. Bill is our treasurer and he and Rita are always offering to help with any of our activities. Bill is also a key leader in the Midwestern region (Rochester and surrounding counties) Middle School Science Olympiad program.

Bill and Rita will be honored at a banquet on April 15th at the Heights Restaurant in Sodus Point. Contact the Sodus Chamber of Commerce for tickets (315-576-3818).

**Congratulations to Bill and Rita.**



**What is this?**

Does anyone know?  
Next month we will  
learn all about it.



Several of us attended the Che-Hanna Club Mineral show in Sayre, PA in late March. In addition to an active dealer floor and some fine exhibits, we caught Bill Chapman once again training youngsters in the art of polishing. Yes, that is Debbie in the red coat.

**The Buffalo Geological Society, Inc.**  
48<sup>TH</sup> ANNUAL  
**Gem Mineral Fossil Show**  
Sat, April 2, 2016 • 10am-6pm | Sun, April 3, 2016 • 10am-5pm  
\$5 Per Person • Special 2 Day Admission \$7 • Scouts in Uniform & Children 12 Yrs & Under FREE

**GRINOIDS: FEATHERS OF THE SEA**

**A GREAT FIELD TRIP FOR THE FAMILY & a real learning experience**  
ALSO SHOWING  
Displays & Information

- NYS Museum
- NYS Parks & Recreation
- NYS Dept. of Environment & Conservation
- Penn Dixie

**MINI-MINE & GRANDPA'S CORNER**  
for the youngest Geologists & Scientists.  
Bead Stringing, Sand Art & more...

Demonstrations • Beads • Jewelry • Private Gem Collections • Unique Gifts  
**DRAWINGS & REFRESHMENTS**

Hamburg Fairgrounds, 5820 S. Park Ave  
Visit <http://bgsny.org/>

**GSA Abstract (continued from page 1)****HIGH RESOLUTION STRATIGRAPHY OF THE DEEP RUN SHALE MEMBER (MOSCOW FORMATION) ACROSS THE FINGER LAKES OF NEW YORK: A REINTERPRETATION OF BASIN AXIS DEPOSITION**

**MAYER, Stephen M.**, 5475 East Lake Rd., Romulus, NY 14541, **BAIRD, Gordon C.**, Dept. of Geosciences, SUNY Fredonia, Fredonia, NY 14063 and **HAYNES, Frederick M.**, 10 Country Club Dr., Rochester, NY 14618, Flexy50@yahoo.com

The Middle Devonian Deep Run Shale Member is an east-west trending muddy siltstone, which accumulated predominately during a marine transgression across a shallow shelf and also within a basinal trough, which marked the northern arm of the Appalachian Basin. Our field research has allowed us to map two new regionally widespread units within the Deep Run Shale Member; a 1 m thick, lower fossiliferous layer herein designated the Kipp Road Bed, and a 4 -15 m thick, sparsely fossiliferous upper unit herein designated the Willard siltstone interval. Furthermore, previously undescribed Ludlowville-Moscow sections along the west shore of present-day Seneca Lake revealed additional beds, which may have been deposited only in the central trough prior to Deep Run time. We currently interpret these deposits to lie above the Jaycox (uppermost Ludlowville Fm.) and to be localized, early phases of the Tichenor (Moscow Fm), which represent partial closure of the sequence boundary unconformity that floors the Moscow Fm.

Species diversity and abundance is high in the Kipp Road Bed but decreases basinward due to increased bathymetry as well as increased turbidity. Moreover, low species diversity and scarcity in the Willard interval reflects rapid rates of sediment accumulation in association with variably intense bioturbation and with maximum inferred water depths. Only a few widely scattered very thin shell-rich horizons occur within the Willard interval and indicate a temporary slowing of sedimentation. The excellent fossil preservation in these shell-rich horizons as well as many taxa found in-situ suggests a renewal of rapid burial. At the very top of the Willard siltstone an erosional surface developed, presumably resulting from shallowing sea levels. Sediments were truncated both east and west of the central trough prior to the deposition of the Menteth, thereby ending the accumulation of the siliciclastics of the Deep Run Shale Member.

**Wayne County Gem & Mineral Club**

# Gem Fest

## 2016

*23<sup>rd</sup> annual*

**Sat. June 4 10-5**

\$3 Admission

**Sun. June 5 10-4**

Kids 12 & under FREE

**LOCATION**

Greater Canandaigua Civic Center  
250 N. Bloomfield Rd, Canandaigua, NY

Soapstone Carving, Wire Wrapping, Sluice,  
Vendors, Exhibits, Free Prizes, and much more

UV Bob's Ultraviolet Show: 5 Showings

### Gems, Minerals, Fossils, Beads & Jewelry





visit [www.wcgm.org](http://www.wcgm.org) for details

### Website of the Month: *GeologyIn.Com*

For most of us who collect minerals and fossils, earth science and geology is more than just a passing interest. If you are intrigued by our fascinating planet and want to read interesting and diverse stories on recent learnings in paleontology, new mineral discoveries, plate tectonics, meteorites, and much more you might want to bookmark this site. <http://www.geologyin.com/>

One of their most recent articles from March 19<sup>th</sup> discusses a new form of carbon that is harder than diamonds. It is called Q-carbon and it could have significant industrial use in the future. Check out this link ([Q-carbon, geologyin.com](http://www.geologyin.com/))

Finally, for Facebook users, the associated Facebook page has over 390,000 followers. Every day they post one or two interesting photos or short pieces about geology, often mineral or fossil-related. Check out: <https://www.facebook.com/AmazingGeologist/>





## APRIL BIRTHSTONE

### Diamond by Fred Haynes

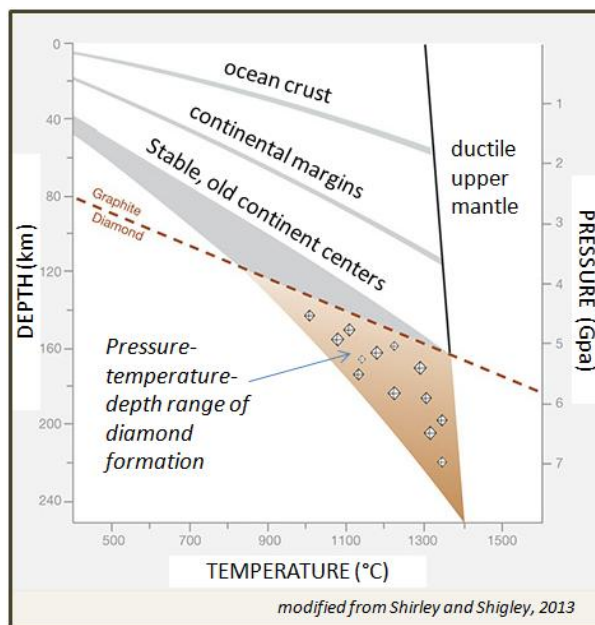


Diamonds are found in very unusual magmatic intrusive bodies called kimberlites or in alluvial deposits resulting from the weathering and erosion of kimberlites and the concentration of the hard and resistant gems in placer deposits. Kimberlites are pipe-shaped igneous intrusions that erupted from great depth. With high gaseous and volatile content, they were able to fracture and penetrate the very thick continental crust, often encapsulating blocks of the fractured host rock as they ascended. (Kirkley et. al., 1991).

In the past, it was thought that the origin of diamonds was in some way directly related to the magmatic processes involved in kimberlite magma generation. However, modern radiometric techniques now permit very small mineral inclusions within non-gem quality diamonds to be dated. This work has shown that the diamonds are actually much older than the kimberlite rock and the intrusion event. (Pay et. al., 2014) In fact, nearly all diamonds that have been successfully dated have been found to be older than 1 billion years and many are over 2 billion years old. In contrast, over 95% of the kimberlites that have been dated are younger than 550 million years old and most are younger than 300 million years. The abundant diamond-bearing pipes in South Africa all date around 120 million years ago.

It is now accepted that the diamonds found within the kimberlite pipes were scavenged from the host rocks within the uppermost mantle and deepest crustal regions as the kimberlite started its destructive and eruptive ascent to the surface. Diamonds are also restricted to kimberlite pipes whose origins reached deeply enough into the earth's interior to permit diamond as the stable form of carbon. A pressure vs. temperature phase diagram for carbon (upper right) shows that depths exceeding 100 km are required for diamond stability. At lower pressures (and temperatures) the stable form of elemental carbon is graphite.

Pressure-temperature profiles for three crustal regimes are superimposed on the graphite-diamond phase transition in the plot above in gray. Clearly, the geothermal gradient (temperature increase with depth) in oceanic crustal regions never reaches the diamond stability region before ductile upper mantle phases and processes preclude the successful ascent of a magma. Continental margins such as the eastern United States are also too thin and too hot.



Although there are kimberlite intrusions in New York none are sourced deeply enough to allow for encapsulation of diamond-bearing rocks during ascent. Only the stable old cratonic cores of the continents have the requisite pressure-temperature profile to allow diamonds to be sourced by ascending kimberlites.

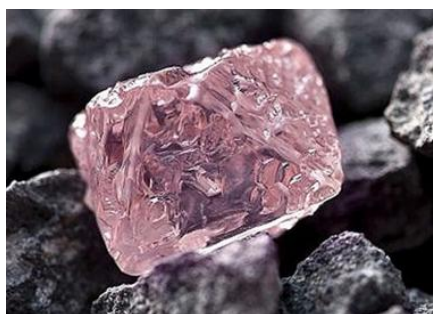
So where did these diamonds grow that were later gobbled up and incorporated into kimberlites for their chaotic ride to the earth's surface? Well, most probably grew in place as grains within the igneous rocks of the mantle.



**This is a incident light photomicrograph of a mantle-derived eclogite.** Dark red is garnet, green is pyroxene (omphacite). Note the diamond in the center. The field of view is 6 mm across. (from Shirley and Shigley, 2013)

Although traditional diamonds are considered colorless, trace amounts of various elements can impart color and in some cases greatly enhance the value of a diamond. Nitrogen is the most common impurity and typically imparts a yellow tint to diamonds, but scattered boron will impart a bluish tint (see [December, 2014 WCGMC News](#) for a story on the Hope Diamond). Greenish diamonds can result from exposure to atomic radioactivity.

Of all the colors of diamond, pink is the rarest and, not surprisingly, the most highly sought. Interestingly, the exact cause for the pink color is not well understood. It is thought to result from an uneven pressure gradient working during the growth of the diamond creating a compressed internal structure. In the gem industry this is referred to as "Plastic Deformation".



Many of the best and largest pink diamonds have been found in the Argyle Diamond Mine in the Kimberley region of Western Australia. The 12.76 carat raw pink diamond shown here was found in 2015 and have been named the Argyle Pink Jubilee. It rivals the best and largest pink diamonds ever found. (Photo from [Amazing Geology webpage](#))

#### References:

Kirkley, et. al., 1991, Age, Origin, and Emplacement of Diamonds: Scientific Advances in the Last Decade, *Gems and Gemology*, Spring 1991, 25 p.

Pay, D., Shigley, J., and Padua, P., 2014, Tiny inclusions Reveal Diamond Age and Earth's History: Research at the Carnegie Institution, *Gems and Gemology* website ([online link](#))

Shirley, S. B. and Shigley, J. E., 2013, Recent Advances in Understanding the Geology of Diamonds, *Gems and Gemology*, v. 49, No. 4 ([online link](#))

various [geologyIn.com](#) webpages



Many countries have featured diamonds on their postage stamps. The American Topical Association thematic diamond list has 116 stamps from 46 different countries.

*As the hardest naturally known mineral on earth, diamond stands alone at the top of the Moh's Hardness scale.*

#### 10. Diamond

[C]



#### 9. Corundum

[Al<sub>2</sub>O<sub>3</sub>]



#### 8. Topaz

[Al<sub>2</sub>SiO<sub>4</sub>(F,OH)<sub>2</sub>]



#### 7. Quartz

[SiO<sub>2</sub>]



#### 6. Feldspar

[KAlSi<sub>3</sub>O<sub>8</sub>]



#### 5. Apatite

[Ca<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>F]



#### 4. Fluorite

[CaF<sub>2</sub>]



#### 3. Calcite

[Ca<sub>2</sub>CO<sub>3</sub>]



#### 2. Gypsum

[CaSO<sub>4</sub>·2H<sub>2</sub>O]



#### 1. Talc

[Mg<sub>3</sub>Si<sub>4</sub>O<sub>10</sub>(OH)<sub>2</sub>]



### WCGMC Member April Birthdays

Pat Chapman  
Abigail Elam  
Fred Haynes  
Carrie Jastrzab  
Steve Shorey



This may look like a faceted diamond, but it is not. This mineral has a hardness of 3.5. It is cerussite (PbCO<sub>3</sub>) and this is the world's largest faceted cerussite. The Royal Ontario Museum in Toronto owns this 896 carat piece of lead ore from Tsumeb, Namibia. Picture is from the [Amazing Geology Facebook page](#) (see page 4).

HELP your editor: As spring and summer approach I am hoping to be out collecting more and inside writing and editing less. If you ever had a itching to write an article or submit an interesting picture, this would be a wonderful time. I'm sure club members would love to read your story.



42<sup>nd</sup> Rochester  
Mineralogical Symposium  
April 14-17, 2016

Radisson Hotel Rochester Airport  
175 Jefferson Road, Rochester, NY

<http://www.rasny.org/minsymp/>



## WCGMC 2016 Field Trip Schedule

last update (3/23/2016)

It is collecting season again. The snow is gone until next winter (we hope) and we are planning. This list is a compilation of our spring plans as of late March. You should always contact the trip leader for details and possible changes. Or come to our monthly meeting and help plan. Additional dates will be added with each newsletter, and on the website. You can always contact our club trip leader, Bill Chapman, if you are uncertain whether you have the latest information.

**Remember to attend a WCGMC field trip you must be a club member, or a member of an affiliated club if you do not live in our region.**

**April 1 (Friday)** – Ace of Diamonds Mine, Middletown, NY Leader – Bill Chapman  
Opening day at the Herkimer diamond locale, getting them before others! \$10/person  
Visit <http://www.herkimerdiamonds.com/>

**April 22-24 (Fri Sat.-Sun.)**- Super Dig Weekend in Sterling Hill, New Jersey (Leader – Linda Schmidtgal)  
Visit [www.uvworld.org](http://www.uvworld.org) to register or <http://www.sterlinghill.org/visitor/schedule.php#events>

**April 29-May 1 (Fri.-Sat.-Sun.)** - Pennsylvania: Pleasant Mills for wavellite and calcite, etc., Red Hill for fossils, Jermyrn and Carbondale for plant fossils, maybe more! (motel in Lewisburg)  
Leaders – Bill Chapman, Fred Haynes

**May 6 (Friday)** – Ridgmont, Ontario for Eurypterids. (watch for logistics) Leader – Stephen Mayer

May ?? (Saturday?) - The date of the annual Penfield Quarry Open House has yet to be determined.

May 21 (Sat.) – Dig with the Experts Day at Penn-Dixie, see <http://penndixie.org/dig-with-the-experts/>

May 25<sup>th</sup> weekend: Hickory Hills will likely be open this weekend for Herkimer picking. More info to come

June 23-26 (tentative long weekend trip): Gilsum Rock Show and Swap, Gilsum, NH combined with possible shared collecting trip with a Vermont club (stay tuned) Leader- Fred Haynes

August 13-20 - Niagara Peninsular Geological Society trip to Thunder Bay Area. Currently several of us are planning to attend this week camping/collecting long trip to the northern shore of Lake Superior. Visit <http://www.ccfms.ca/clubs/NPGS/trips.htm> for some information or contact Fred Haynes

**Much more will be planned, particularly into June and July– Watch this space**

Fossil Trips proposed include Deep Run, Green's Landing, Alden, Indian Creek, Syracuse area, Second Creek in Sodus, and more. Mineral trips to Ilion, Penfield, Walworth, Rose Road, and more

## **SHOWS and OTHER EVENTS TO KEEP ON YOUR RADAR in the next few months**

**April 2-3: Buffalo Geological Society Gem Mineral and Fossil Show**, Hamburg Fairgrounds, (Grange and Market Bldgs., \$5/ person [ Focus on Crinoids ] <http://bgsny.org/>

**April 14-17 Rochester Mineralogical Symposium** in Rochester, NY  
<http://www.rasny.org/minsymp/>

**May 21-22 Southern Vermont Mineral, Rock, and Gem Show**, Grace Christian School, Bennington, VT  
WCGMC members free with dues card, others \$5

**June 4-5 -- THE BIG EVENT -- GEMFEST 2016 IN CANANDAIGUA** [www.wcgmc.org](http://www.wcgmc.org) for details

July 9-10 GemWorld 2016 in Syracuse (more details to follow)

July 23 WCGMC annual picnic and workshop event (*note the move from August to July*)

## Wayne County Gem & Mineral Contacts

### ELECTED OFFICERS

Glenn Weiler – President [gwexterior@gmail.com](mailto:gwexterior@gmail.com)  
315-594-8478

Jerry Donahue – VP [Chester145322@yahoo.com](mailto:Chester145322@yahoo.com)  
585-548-3200

Eva Jane Weiler – Secretary [gwexterior@gmail.com](mailto:gwexterior@gmail.com)  
315-594-8478

Bill Lesniak – Treasurer/Webmaster  
[Dirtman300@aol.com](mailto:Dirtman300@aol.com) 315-483-8061

### Board of Directors

Ken Rowe [gotrox88@localnet.com](mailto:gotrox88@localnet.com) 315-331-1438

Susie Hoch [smhrockfinder@rocketmail.com](mailto:smhrockfinder@rocketmail.com)  
585-794-7287

Linda Schmidtgall [lees@tds.net](mailto:lees@tds.net) 315-365-2448

Laurie Frey [Lmcfaul328@aol.com](mailto:Lmcfaul328@aol.com) 315-483-9894

### APPOINTED POSITIONS

Bill Chapman – Field Trip Chair  
[batnpill@empacc.net](mailto:batnpill@empacc.net) 607-868-4649

Fred Haynes – Newsletter Editor  
[fredmhaynes55@gmail.com](mailto:fredmhaynes55@gmail.com) 585-203-1733

Glenn Weiler – Workshop Coordinator

Linda Schmidtgall – Collection Curator

Club meets 2<sup>nd</sup> Friday of each month starting in Sept.  
Social meeting at 6:30 PM.  
Regular meeting at 7:00 PM  
Park Presbyterian Church, Maple Court, Newark, NY  
**Website –** <http://www.wcgmc.org/>

Dues are only \$15 individual or \$20 family for a full season of fun. Send to:  
WCGMC, P. O. Box 4, Newark, NY 14513

The Public is always welcomed  
First Class: Dated, Meetings & Time Values



Wayne County Gem and Mineral Club  
P.O. Box 4  
Newark, New York 14513