



The Trilobite



Volume 71 Number 01

Wisconsin Geological Society

Jan. 2015

NEXT WGS MEMBERSHIP MEETING & PROGRAM Monday, January 12, 2015

Immaculate Heart of Mary Church Hall
(Downstairs, Enter at back of building)
1260 South 117th Street (Just North of Greenfield Ave):
West Allis, Wisconsin

7:00pm: Business Meeting:

7:30 pm: Program: The speaker will be Sarah Survis from UWM.
See page 5 for a description of her presentation.

"WGS Board Proposes Donation of Funds to Purchase Plotter

When the WGS Board asked the UW-Milwaukee geosciences department how we could help with a sizable donation, we learned that the department needs a new plotter/printer. "Our current plotter is on its last legs," says department chair, Dr. Barry Cameron. According to Brett Ketter who assists students in the printing of posters used to present their projects, "The printer is used a ton by students going to various conferences and saves them from sometimes having to foot the bill themselves."

--- Here's a description of the HP Designjet T795 ePrinter they would like to buy: "With automatic software updates, (plus)16 GB of virtual memory and large ink cartridges, powerful printing comes standard. Benefit from fast file processing and longer runs of unattended printing. Web connectivity and exceptional print quality means great results from virtually anywhere."

---The WGS Board proposes a donation to UWM of \$5,000.00 in the Spring to cover the cost of this printer, plus some paper and ink. This project will be discussed at the general membership meeting/Holiday Party on December 8th, 2015. Your comments/suggestions at that time will be welcome. Thank you. Jody Rymaszewski, V-P



Winter

A HAPPY
NEW YEAR

WGS Minutes

December 8, 2014

Immaculate Heart of Mary church Hall

The meeting was called to order at 7:42 PM by our President Pierre Couture.

The minutes of the November meeting were printed in *The Trilobite*. Steve Mayer made a motion to accept the minutes as published. Bob Bialecki seconded. The motion was approved.

New Memberships: There were no new memberships.

Guests: There were no guests.

Kitty Klein read the Treasurer's Report. Tom Kuhlinger made a motion to accept the current report for audit. Another member seconded. The motion was approved.

Committee Reports: The Mineral and Fossil study groups will not meet in December. The Mineral Study group will be meeting at Bernice McCloskey's in January.

Unfinished Business: We have a proposal to donate \$5000 to UWM for a new plotter for the Geology Department. This was mentioned at the last meeting and printed in the December issue of *The Trilobite*. We will print this proposal again in the January *Trilobite*.

New Business: Lloyd Brown made a proposal to make a \$50 donation to Scholarship in Norb Badten's name. A motion was made, seconded, and approved.

Announcements: Jody Rymaszewski has two mushroom T-Shirts she would like to sell. Montana is still in the process of building his website. They plan on training people as Gemologists. Paul Schmidt has some Show flyers in the back. Joan Johnson, a member who lives out of State, sent us a lovely letter.

Door Prizes: Montana donated some jasper. We also have some specimens from the Hartman collection. The winners were: Tom Kuhlinger, Rosemarie Trokan, John Hammeter, Lloyd Brown, Montana, Verna Schmidt, Lavell, Barbara Brown, Chuck Riel, Ed Fyrnys, Steve Klein, John Eisert, Mike Macali, Wanda, Kitty Trokan, Pierre Couture, Paul Schmidt, and Philip.

Adjournment: Tom Kuhlinger made a motion to adjourn. Another member seconded. The motion was approved. The meeting adjourned at 8:21 PM.

Barbara Brown, Secretary

Long time member Norb Badten passed away on Wednesday, November 12, 2014. We would like to extend our sympathy to his family. He will be missed by all of us at WGS.

UWM Course & Senior Auditors

---If you are a Wisconsin resident and 60 years or older you may qualify to audit classes free of charge on a space-available basis with instructor approval. Complete the electronic application for admission to the 60 and Over Audit program at <https://apply.wisconsin.edu/>

Please mail in a copy of your driver's license or a birth certificate to confirm your age to participate in this program.

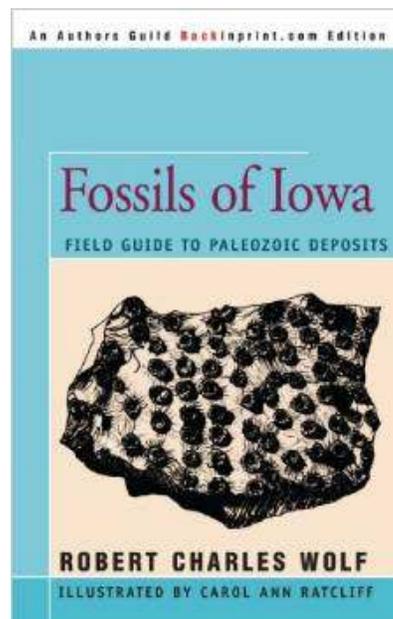
---Dr. Margaret Fraiser (414-229-3827) is teaching a new Spring 2015 course: **Biotic Crises in Earth's History (Geo Sci 697)** and welcomes senior auditors. "This course will explore various large-scale environmental and biotic changes as recorded in the geologic record. Dr. Peter Sheehan (of the Milwaukee Public Museum and UWM Geosciences) will lend his expertise on the Ordovician and K/Pg extinctions. For both undergraduates and graduate students there will be weekly assignments, as well as a final research project. A week-long field trip to several western US states will be held at the end of the course. It should be fun!"

Fossils of Iowa

I've updated the CD for my book "Fossils of Iowa, Field Guide to Paleozoic Deposits, 2006". The book was originally published in 1983 by the Iowa State University Press and lists collecting sites in Iowa and parts of Nebraska and Minnesota. Backinprint.com is the current publisher. The book is available online for purchase from various sources, but the CD update is only available through me and is included free with every order. The CD updates the information on the collecting sites in the book. Things are always changing concerning collecting sites and I do my best to keep up to date, and I rely on what others report back to me. If you already have a copy of the book, I can email you the update file at no charge.

Thank you and happy collecting!
Robert Wolf

Fossils of Iowa
\$16.95 + \$4 shipping
Iowa residents add 7% sales tax
-Make checks payable to
Robert Wolf
3521 10th Ave. North
Fort Dodge, IA 50501-2910
[515-955-2818]
midnightwriter@frontiernet..net
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CALENDAR OF EVENTS**March 14-15 2015: KMGS Annual Rock Show****March 28-29 2015: Badger Lapidary & Geological Society, 45th Annual, Rock, Gem, Mineral, & Fossil Show.****Dates:** Saturday March 28th & Sunday March 29th 2015. Hours: 9AM-5PM**Location:** Monroe Senior High School, 1600 26th St., Monroe, WI 53566.**Description:** Ten dealers, excellent speakers, many beautiful club displays, fluorescent mineral tent, lapidary demonstrations, club sales table, hourly door prizes, educational films.**Activities for kids:** Fishpond, spinner game, scavenger hunt, quarry quest, rock polishing, and roving rock wizard.; **Food:** Full Menu; **Free Show** - Free-will donation and free parking.**Show Contact:** Teri Marche, 5415 Lost Woods Ct., Oregon, WI 53575; tmarche555@gmail.com**Website:** www.badgerrockclub.org**May 16-17 2015: The 58th Annual Wisconsin Geological Society Gem, Mineral, and Fossil Show**Saturday May 16th and Sunday May 17th 2015 from 10:00am to 5:00pm each day.

The Show will be held at Hart Park, Wauwatosa WI

The Midwest Federation website has an extensive calendar of shows and activities throughout the Midwest. **<http://www.amfed.org/mwf/Calendar/calendar.html>**

An extensive list on mineral shows is also at: **<http://www.the-vug.com/vug/vugshows.html>**

Sarah Survis - WGS presentation description**SEDIMENTOLOGY AND STRATIGRAPHY OF HIGH-LATITUDE, GLACIGENIC DEPOSITS FROM THE LATE PALEOZOIC ICE AGE IN THE TEPUEL BASIN, PATAGONIA, ARGENTINA**

The Late Paleozoic Ice Age (LPIA; 346-259 million years ago) was the longest-lived ice age of the Phanerozoic (the last 542 million years). During this time multiple, small ice sheets advanced and retreated with alternating glacial and nonglacial intervals across polar regions of the supercontinent, Gondwana. Despite recent advances, the number of ice sheets, the size of the ice sheets, and the timing of glacial events remain controversial. The Tepuel Basin located in the Chubut Province of Patagonia, Argentina is an ideal location for studying the LPIA. Because most of the strata in this basin were deposited in a glacially influenced outer shelf, basin slope and basin floor setting with a relatively high subsidence rate, the succession provides a near complete polar record of the LPIA. The goal of this project is to aide in the understanding of depositional processes of a glaciomarine shelf edge and slope setting located at high latitudes during the LPIA. Several stratigraphic sections were examined along what is believed to be an outer shelf to basin slope environment, and depositional features and processes were used to help determine proximity to glaciers. Some glacial signatures have been observed in this section of the formation, but a lot of what was observed is due to normal marine processes in this type of setting.

Bench Tips by Brad Smith**SOLVENT DISPENSER**

Frequently I need to fill a small bottle with alcohol, like an alcohol lamp or one of the nail polish bottles that I use for the yellow ochre anti-flux. Often I can't find a small funnel and end up spilling almost as much as I get into the bottle. It's wasteful, and the fumes can't be too good for you either.

A neat and inexpensive solution is to use a lab dispensing bottle to store small quantities of the solvents you frequently use. It has a wide mouth for filling and a fine tip for dispensing. You can get a small stream or just a drop or two. With the bottle's fine tip I don't spill a drop.

There are many suppliers on Google. One I've used is Carolina Biological Supply Company at www.carolina.com The bottle is Catalog # 716580 Unitary Wash Bottle, Low-Density Polyethylene, 125 mL

SILVER DISCOLORATION

Working with jewelry involves an ever increasing number of skills. Chemistry is one of them that comes into play when dealing with a discoloration on the metal caused by a chemical reaction between it and the environment.

In the case of Sterling silver there are three discolorations we typically encounter: a tarnish, a fire-scale, and a firestain. Each is different in its cause, in its cure and in its prevention. All three have to do with the metals in the Sterling alloy (92.5% silver and 7.5% copper) and how they react with oxygen and the heat of soldering or with pollutants in the air over the long term.

Tarnish is a grayish coating that builds up slowly on the surface as a result of a reaction of the silver with sulfur-based compounds in the air. Typically these are pollutants from the burning of petroleum fuels, but they can come from other sources as well. I once tarnished all the silver in my display case by putting a pretty specimen of iron pyrite in with the jewelry. Turns out pyrite has sulfur in it! Sulfur combines with the silver to form a grayish silver sulfide film on the surface.

Preventing tarnish involves keeping sulfur away from the metal. Plastic bags will help, and anti-tarnish strips are available from jewelry supply companies to pack near your items. Tarnish is easily removed by hand polishing with a jeweler's cloth or with one of the products sold for cleaning the good silverware for holiday dinner.

Another way is to remove it chemically. Put a piece of aluminum in the bottom of a dish large enough to contain your piece. Heat enough water to cover the silver. Mix in 2 tablespoons of sodium carbonate per cup of water and pour into the dish. Be sure the silver touches the aluminum. Sodium carbonate is the main ingredient in washing soda. Read the labels in grocery and hardware stores.

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The second type of tarnish is called firescale. It is the dark gray to charcoal colored film that forms on Sterling or other copper alloy like copper or bronze when we heat it with a torch. The copper in the alloy reacts with oxygen in the air to form a dark cupric oxide coating on the surface. Luckily, the oxide is easily removed by dissolving it in a mild acid - generally called a pickle. It's important that we not let firescale form on a solder joint because it will block the flow solder over the joint.

Prevention can be done two ways. Most common is to use a flux, a borax-based solution applied to the metal before soldering. When melted, borax forms a thin glassy layer that keeps oxygen away from the metal. A second way is to do your soldering on a charcoal block. Together with the flame, charcoal greatly reduces the amount of oxygen in the area being soldered. In either case oxygen is prevented from reaching the metal, so no cupric oxide firescale is formed.

A second oxide can also be formed when soldering copper or a high copper content alloy like bronze or brass. It's called cuprous oxide and is reddish in color. That's why a black looking piece you put in the pickle sometimes comes out red. Problem is that while the black cupric oxide is dissolved by a pickle, the red cuprous oxide is not. The discoloration can be sanded or polished off, but an easier way is to use a "super pickle". This is a mixture of fresh pickle with a healthy shot of hydrogen peroxide from the local store.

I've saved the worst form of discoloration, firestain, for last. Think of firescale (above) as like getting dirt on your shirt that you have to wash off. Firestain is like getting ink on it. The discoloration is not just on the surface, it seeps down and stains the material. Firestain happens when we heat a piece of silver too hot, too long, and/or too many times.

Firestain occurs when the oxides start to build up below the surface of the metal. You generally don't notice it until after polishing. It appears as a darker area of the surface and is easy to spot when viewed under light bounced off a piece of white paper. Because firestain is below the surface, there's no easy bench top solution. Depletion gilding may work for some pieces. Otherwise, removing it calls for sandpaper and aggressive polishing.

A much better approach for a piece that will require a large number of solderings is to protect the metal from developing firestain by applying liberal coats of a firecoat. Regular soldering flux will provide some protection but will not be as effective as preparations made specifically for the task.

TAKE BETTER PHOTOS

Most digital cameras these days have the ability to take a good picture of your small jewelry items, but set-up is important. There are four major items to control - background, lighting, camera motion and focus control. Lightly colored papers from an art store make reasonable starter backgrounds. Try experimenting with other products later like glass or colored plastics. Avoid fabrics because the weave can often be distracting at high magnification.

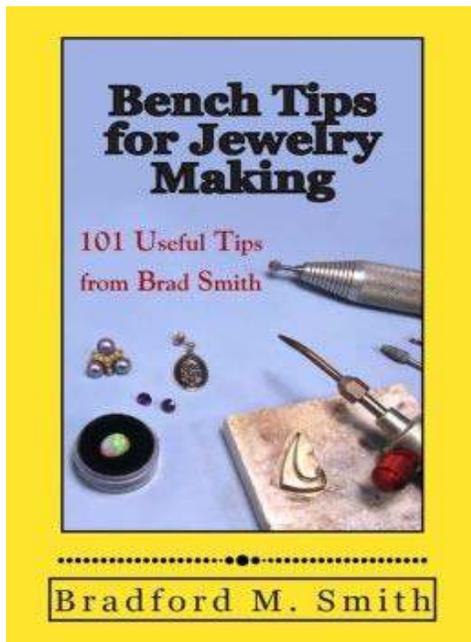
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Outside lighting is the easiest. In fact for close-ups, flash never works well. Turn off your camera's flash. Choose a bright but overcast day or a lightly shaded area when the sun is full. For inside use, two gooseneck desk lamps can be used with 75 watt bulbs. Whatever you use, be sure to set the camera to match the type of lighting you use or you'll be shooting up close, so turn on the Macro mode. Now at this range, if the camera moves even a little bit during the shot, the picture will be blurry, so it's essential to use a tripod. Used ones are available inexpensively from eBay, yard sales or some camera shops. And, even with a tripod, I put the camera on the self-timer mode so that any vibration from when you click the button settles down before the camera takes a picture.

In order to get the largest part of your jewelry in focus, you have to close the lens down to the minimum aperture (highest F-Stop number). This is done by taking the camera off of "Auto" mode and selecting Aperture Priority, usually denoted by "Av" and then setting the aperture to the largest number, which is F-8 on my camera. You'll probably have to get out the book or go back to the store to ask about this, but it's really worth it.

That's it. In recap, here are the camera settings I use:

2. Move the camera in close enough for the item to cover at least 3/4 of the frame.
3. Look for adverse reflections from the jewelry surface.
4. Try to minimize reflections with changes of light position, camera angle or white background paper.
5. Carefully check for any fingerprints or dust that might be on the piece.
6. Make any final tweaks with light and arrangement.
9. Set the lens opening to the highest number for max depth of field.
10. Set the lighting to match what you're using (daylight, overcast, light bulb, fluorescent, etc.).
11. Set the timer to delayed shooting, either 2 seconds or 10 seconds, to avoid camera movement. The delay also gives you time to hold up a piece of white paper to reduce any final reflections.



'Get all 101 of Brad's bench tips in "Bench Tips for Jewelry Making" on Amazon.com

www.amazon.com/dp/0988285800/

It's often difficult to find a nice gift for a friend who makes jewelry. The Bench Tips book has earned over 25 Five Star reviews, was ranked Number One in Amazon's Top 100 list for Jewelry, and named by Amazon as one of the Best Books in 2014.

Blue Belle of Asia sells for US\$17.29 million

An amazing **Ceylon blue sapphire** popularly known as *the Blue Belle of Asia*, broke auction records for sapphires in November 2014 to become the most magnificent and highest-priced sapphire to have ever been sold at an auction.

The spectacular cushion-shaped 392.52-carat Ceylon blue sapphire set in a diamond necklace sold to a private collector for US\$17.29 million at Christie's auction of Magnificent Jewels held in Geneva on November 11, 2014.

This was a record price for a sapphire at any auction: the price per carat was US\$44,063. The estimate on the auction catalogue was US\$7 million to US\$10 million. Dealers and collectors were awestruck by the unprecedented price paid at the auction for the for the sapphire



Photo credit : Christie's Images (2014)
Photographer: Denis Hayoun/Diode SA

The Blue Belle of Asia

The large rough pebble that became the *Blue Belle of Asia* was reportedly found in 1926 in a rice field in Pelmadulla, close to Ratnapura (the City of Gems) in Ceylon (Sri Lanka) and was purchased by internationally renowned Colombo gem company, Macan Markar. "The famous firm, established in 1860 by O. L. M. Macan Markar, had one of the most spectacular collections of gems: among their clients were several members of the British Royal family including HM King Edward VII and HM King George V," Christie's experts say

Early information about the famous Ceylon sapphire indicates that the approximate weight at the time was 400 carats. It was described as having a 'highly prized peacock blue colour and excellent clarity.

In 1937, the *Blue Belle of Asia* was sold to British motor magnate Lord Nuffield (1877-1963), the founder of Morris Motors Ltd and a celebrated philanthropist. In the same year that he bought the *Blue Belle of Asia*, Lord Nuffield founded and endowed Nuffield College, Oxford and in 1943 he gave £10 million to form the Nuffield Foundation designed to benefit medical research, hospitals and education.

The reasons behind his purchase of the *Blue Belle of Asia* were mysterious: it was reported that the sapphire was to be presented to HM Queen Elizabeth the Queen Mother on her coronation day on 12 May 1937. However this did not happen and the *Blue Belle of Asia* went off radar for the next 35 years re-emerging briefly in the 1970s when the famous Swiss-based gem-dealer Theodore Horovitz had the opportunity to examine the sapphire. His notes and drawings gave precious additional information on the shape and weight of the gem.

According to Christie's, the magnificent sapphire had "disappeared" into private hands and stayed hidden away for 77 years until it became available for auction in November 2014.

According to Christie's there are only four known polished blue sapphires that weigh over 350 carats. The amazing fact is that all of them are Ceylon sapphires from the gem gravels of Sri Lanka.

The largest is the *Blue Giant of the Orient*, a 486.52-carat Ceylon blue sapphire that was sold at a Christie's Geneva auction in May 2004.

The *Queen of Romania* ranks second: a 478.68-carat Ceylon Sapphire sold at Christie's Geneva auction in November 2003.

In third position is the Logan Sapphire, a 423-carat Ceylon blue sapphire gifted by Mrs Logan to the Smithsonian Institute in Washington in 1960.

The *Blue Belle of Asia* ranks 4th: the 392.52 sapphire was sold at Christie's Geneva auction on November 11, 2014.

Another important Ceylon sapphire is an unnamed 337.66-carat Ceylon sapphire that was sold at Christie's Geneva auction in May 1991.

Christie's elaborates that an extract from the inventory of the Crown Jewels of Iran states that there are relatively few sapphires in the collection but three were worthy of special note, the largest weighing 191.58 carats.

The Diamond Treasury in the Kremlin Museum possesses a magnificent cornflower blue sapphire from the old Russian Royal regalia weighing 250 carats. Another large sapphire in the Russian collection is one that bears the name of Catherine the Great and weighs 337 carats.

From Sri Lanka gem and Jewelry Association E Newsletter by *Jennifer Henricus*,
Specialist gem and jewellery writer



WGS Members, Please Note:

Your Membership is renewed each November.

\$15.00 Single Membership, \$20.00 Family Membership

Please remember to send your check to Club Treasurer Kitty Klein
2477 South 73rd Street, West Allis WI 53219

Our Treasurer Kitty Klein has recorded the following as having paid their dues.

If you are not on the list, please send in your dues.

If you have paid and were inadvertently left off the list, please contact Kitty.

Anderson, Barreto, Barron, Bialecki, Brojanac, 3 Browns, Budnik, Cannizzo, Couture, Dettwiler, Droszcz, Eisert, Eshbaugh, Eyre, Fynys, Gazvoda, Hammetter, Johnson, Juneau, Kerr/Drobny, Klein, Knoske, Kullinger, Macali, Mindock, Pawlak, Pearson, P. & C. Peychal, Pittelkow, Porubsky, Prill, Queen, Red Sky, Riel, Rymaszewski, Sanford, P. Schmidt, Schroeder, Sharpless, K. & R.M. Trokan, Weis, Zamora

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The Purpose of the Wisconsin Geological Society, Inc is to:

- Create an interest in the study of Geology
- Provide a means for personal development in Geology.
- Disseminate knowledge concerning all phases of Geology.

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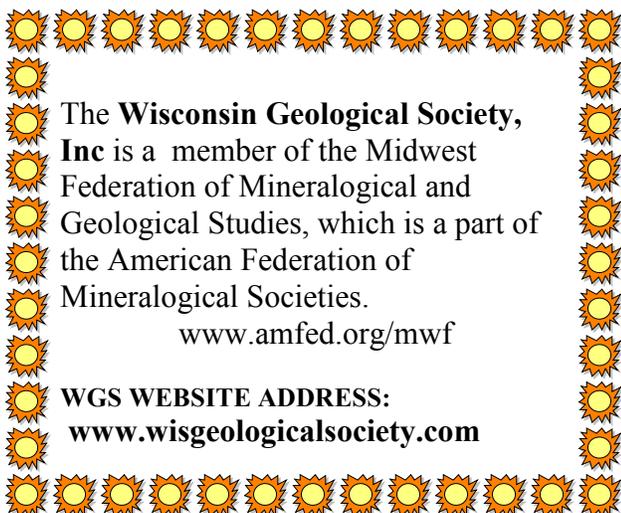
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FIRST CLASS

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The Trilobite



Jan. 2015

General Membership meetings are held each month (except July and August) on the second Monday of the month at 7:00p.m. in the Parish Hall (lower level) of the Immaculate Heart of Mary Catholic Church, 1260 South 117th Street; West Allis, Wisconsin.

All news, articles, and pictures to be included in the Trilobite should be forwarded to the editor by the 15th of the month. They can be mailed or e-mailed to:
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pvs@wi.rr.com

WGS Members, Please Note:

**Your Membership Dues are renewed
in November.**

\$15.00 Single Membership
\$20.00 Family Membership

*Please remember to send your check to
Club Treasurer Kitty Klein
(See page 11)*

The check should be made out to WGS

**The Wisconsin Geological Society, Inc
is now in it's 77th year**