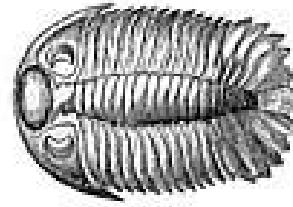


The Trilobite



Wisconsin Geological Society

March 2019

NEXT WGS MEMBERSHIP MEETING & PROGRAM
Monday, March 11, 2019

Immaculate Heart of Mary Church Hall
(Downstairs, Enter at back of building)
1212 South 117th Street (Just North of Greenfield Ave):
West Allis, Wisconsin

7:00: Presentation followed by our Business meeting as usual.

Our scheduled speaker ran into a problem and re-schedule. We will have something however. Come and be surprised!!!

Remember, The mineral study group will meet at 6:00 prior to the regular meeting.

If you would like to exhibit at our show in May, please let me know.
We can furnish a 4 foot case if you need one.

Paul Schmidt, Show Chairman

Mars Rover Opportunity – RIP

Launched in 2004, the Mars rover Opportunity was designed for a 90 Sol (Martian day) mission life. Now, after surviving 15 years of exploration, Opportunity was declared dead, victim of an intense dust storm in the first half of 2018. NASA has tried for the last 6 months to contact the rover since the dust storm subsided, with no results. During its mission to find out if water is or had once been found on Mars, it covered travelling 45.16km (28mi) over 5,111 sols (A Sol and an Earth day are virtually the same).

It and its companion Rover Spirit found evidence for water altering rocks sometime in the past, and even found that Martian dust is rich in magnetite, explaining its magnetism and why it rusts to give the Red Planet its distinctive hue. During its long journey, Opportunity found strange round “blueberries” of hematite, sedimentary rock hinting at a watery past, and even evaporites telling tales of salty lakes long-gone.

Info from wired.co.uk and NASA.org

WGS Minutes, February 11, 2019
Immaculate Heart of Mary church hall

The business meeting was called to order at 8:23PM by our President, John Hammetter.

The minutes of the January meeting were printed in *The Trilobite*. Tom Kullinger made a motion to accept the minutes as published. Another member seconded. The motion was approved.

New Memberships: No new memberships. We have one application in the pipeline.

Guests: No guests.

Treasury Report: There was no Treasurer's Report.

Committee Reports:

Show: The layout has been prepared. If you need a display case, please let Paul Schmidt know.

Newsletter:
No Report.

Mineral & Fossil Study Groups:
Mineral study group will be 6PM the night of our next meeting at our general meeting location.
There was no meeting tonight because the instructor, Pierre Couture, had a cold.

Junior Rockhounds:
We have one Junior Rockhound who is interested.

Field Trip:
No Report.

Sunshine: No report.

Unfinished Business:
No old business.

New Business:
No new business.

Announcements:
The Kettle Moraine Show is on March 9-10 Our five + volunteers will be contacted.

Door Prizes:
There are no door prizes.

Adjournment: Tom Kullinger made a motion to adjourn. Rebecca Schmidt seconded. The motion was approved.
The meeting adjourned at 8:35PM.

Barbara Brown, WGS Secretary

CALENDAR OF EVENTS

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>

March 2-3, 2019: Appleton WI; Fox Rocks Gem, Mineral and Jewelry Show
Fund Raiser for Weis Earth Science Museum
2621 N. Oneida ST, Appleton WI
Sat 10-5, Sun 10-4

March 9-10, 2019: West Bend WI; Kettle Moraine Geological Society 57th Annual Show
Washington County Fair Park & Convention Center
3000 Hwy PV (1 block East of St. Hwy 45)
Sat 10-5, Sun 10-4

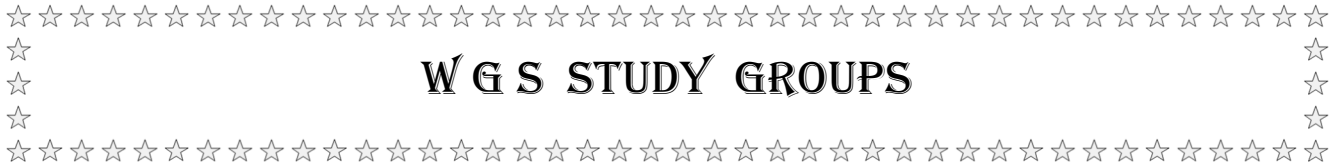
March 23-24, 2019: Janesville, WI; Badger Lapidary and Geological Society Show
Rock County Fairgrounds, Craig Center Building, 1301 Craig Ave.
Sat 9-5, Sun 9-4

April 6-7, 2019: Green Bay WI; Neville Public Museum Geology Club Rock, Gem and Mineral Show ; Neville Public Museum, 2010 Museum Place, Green Bay WI
Sat 9-5, Sun 10-4

May 4-5, 2019: Marshfield WI. Heart of Wisconsin Gem, Mineral, Fossil & Jewelry Show
Marshfield Senior High Fieldhouse
1401 E. Becker Road
Saturday 10-5, Sunday 10-4

May 18-19, 2019: Wauwatosa WI. Wisconsin Geological Society Annual Show
Muellner Building, Hart Park (Park entrance at 72nd and State Street)
Saturday 10-5, Sunday 10-5





WGS LAPIDARY STUDY GROUP

After the FIRST Quarter of 2019 ends in March, there will be a lottery for the classes for the SECOND quarter of April, May and June. In the morning and in the afternoon there will be openings for up to eight individuals (of the age of fifty or more) for sessions at the craft room for lapidary classes and for metal working classes. The morning sessions are from 9:00 am to 11:30 am and afternoon sessions are from 12:00 noon to 2:30 pm. There is a fee for morning sessions and for afternoon sessions for supplies such as saw blades, sanding belts and grinding wheels. McGovern Park will have a fee for utilities.

For the THIRD quarter of July, August and September there will be no scheduled classes.

The lapidary study group will display material made of mica minerals of muscovite, biotite, phlogopite, fuchite, and lepidolite on Tuesday, March 12th during the lunch break from 11:30 to noon in the craft room in McGovern Park Senior Center, 4500 West Custer Avenue, Milwaukee.

Ed Fyrnys 414-453-3456

WGS MINERAL STUDY GROUP AND FOSSIL STUDY GROUP

The Mineral Study Group and the Fossil Study Group will be meeting at 6:00pm in the church hall before the regular meeting which will start at 7:00pm.

Contact John Hammetter for any additional information. 414-519-1958

2019 Show

Our 2019 Show will again be held at Hart Park the weekend after Mother's day. May 18 and 19.

Setup will be after 10:30 on Friday May 17th.

Paul Schmidt—Show Chairman
pvs@wi.rr.com 414-771-8668

Junior Rockhound meetings are on hold and are no longer being held during monthly Wisconsin Geological Society meetings. We are in the process of organizing a monthly Saturday afternoon meeting. It will probably be held at the Wauwatosa public library.

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 Christopher Nohl, 3240 N. Summit Ave, Milwaukee 53211



Moissanite is the name given to naturally occurring silicon carbide and to its various crystalline polymorphs. It has the chemical formula SiC and is a rare mineral, discovered by the French chemist Henri Moissan in 1893.

Silicon carbide is useful for commercial and industrial applications due to its hardness, optical properties and thermal conductivity. Synthetic SiC powder has been mass-produced since 1893 for use as an abrasive. Grains of silicon carbide can be bonded together by sintering to form very hard ceramics that are widely used in applications requiring high endurance, such as car brakes, car clutches and ceramic plates in bulletproof vests.

Mineral moissanite was discovered by Henri Moissan while examining rock samples from a meteor crater located in Canyon Diablo, Arizona, in 1893. At first, he mistakenly identified the crystals as diamonds, but in 1904 he identified the crystals as silicon carbide. The mineral was named in his honor. The discovery in the Canyon Diablo meteorite and other places was challenged for a long time as carborundum contamination from man-made abrasive tools.

Moissanite, in its natural form, is very rare. It has only been discovered in a small variety of places from upper mantle rock to meteorites. Discoveries have shown that moissanite occurs naturally as inclusions in diamonds, xenoliths, and ultramafic rocks such as kimberlite and lamproite. They have also been identified in carbonaceous chondrite meteorites as pre-solar grains.

Naturally occurring Moissanite, is dark green or black, found in very limited quantities and is not commercially viable.

For over a hundred years the stone was little more than a footnote in research books. Then, in 1995, Cree Inc. a US based company that manufactures silicon carbide devices developed a synthetic Moissanite from silicon carbide crystals. Cree discovered a process of taking the minerals silicon and carbon, evaporating them into one compound, then growing them into a crystal. This crystal is cut into the final Moissanite jewel, either nearly colorless, like a diamond, or in various shades of green. This led to a partnership with Charles & Colvard to develop larger colorless gemstones for jewelry use. Charles & Colvard is now the exclusive worldwide manufacturer and marketer of lab-created moissanite gemstones. Moissanite, along with other synthetic and treated stones now account for a little over two percent of the diamond jewelry market. Moissanite costs about one-tenth of its diamond counterpart.

There are not many materials that can boast being tougher than diamonds, but Moissanite is one of them. The unique atomic structure of it differs from that of a diamond. Its durability allows it to be exposed to heat and chemicals during the manufacturing or jewelry repair process that often damage other gemstones. Being one of the hardest gemstones on Earth, it has more than double the hardness of any popular diamond simulants, making it extremely difficult to scratch or damage.

What makes it so striking is that it has more fire, brilliance, and luster than any other gemstone on Earth.

Near colorless, Moissanite has physical properties very similar those of diamond. For example, Moissanite tests positive for diamond on conventional thermal probes. Almost all diamond simulants share one property with diamonds: they are singly refractive. A ray of light passing through the gem is slowed but otherwise unaffected by the medium. Synthetic Moissanite is doubly refractive. This means that a ray of light passing through the stone is slowed, bent and split in two as it passes through it.

To the average eye Moissanite seems virtually as beautiful as a diamond, though its color is lower. At first sight, both inside and on the surface, Moissanite's brilliance seems to be softer and cloudier. The sharp effects of the color spectrum in a regular diamond are enticing and the human eye easily registers the stone's distinct nuances. On the other hand the color spectrum effects in Moissanite are more spread out. On the hardness scale, Moissanite is only slightly softer than diamond, registering 9+ on the Mohs scale, as opposed to a diamond's 10.

The most significant optical property affecting a gemstone's brilliance, or sparkle, is the brilliance refractive index or BRI. The BRI of moissanite ranges from 2.65 to 2.69, meaning it displays more brilliance than diamond (with a BRI of 2.42) or any other popular gemstone.

A gemstone's fire is determined by a gemological property called dispersion. Dispersion refers to the prism effect that occurs when pure white light enters a non-opaque object, breaks into spectral (rainbow) colors, and reflects back to the viewer. Moissanite's dispersion is 0.104, which exceeds that of any gemstone including diamond, ruby, sapphire and emerald.

GIA's color-grading scale for diamonds is the industry standard. The scale begins with the letter D, representing colorless, and continues with increasing presence of color to the letter Z, or light yellow or brown. Each letter grade has a clearly defined range of color appearance.

Moissanite grading uses a color grading scale that is based upon the GIA diamond color grading scale. There are three grades of moissanite available today: colorless (D-E-F range), near-colorless (G-H-I range) and with faint hues of color (J-K range).

Info from:

Wikipedia,

<http://www.diamondsourceva.com/education/artificialdiamonds/diamonds-moissanite.asp>

moissaniteco.com/

www.charlesandcolvard.com

The Isle of Skye lies close to the north-west coast of the Scottish Highlands. It is the largest and the furthest north of the islands in the Inner Hebrides. Fairly compact at 60 mi in length, the island's peninsulas radiate from a mountainous center dominated by the Cuillins, the rocky slopes of which provide some of the most dramatic mountain scenery in the country. The isle is especially treasured for its hiking and photographic opportunities.

The coastline is very irregular and indented by sea lochs. In all it is some 400 miles long. The coast is littered with bays, sea arches, stacks, caves, massive cliffs, waterfalls, fossil and tidal islands. This dramatic coastline surrounds some of the most exceptional and varied scenery to be found anywhere.

The main mountain range, the Cuillin, is often said to be the home of the only true mountains in Britain. Nearby, the rounded granite lumps of the Red Hills are less savage, but still offer stunning views. Two Cuillin ranges dominate the landscape on Skye: the Black Cuillin and the Red Cuillin separated by Glen Sligachan. The iconic ridge of the Black Cuillin is the UK's most challenging mountain range. Over 11 kilometres (7 mi) long and above 3,000 feet in places. The gentler, rounded Red Cuillin are very popular with hillwalkers.

The Black Cuillin Ridge was formed 60,000,000 years ago and is all that remains of an eroded magma chamber of a huge volcano. Comprised mainly of hard, rough gabbro rock and smoother basalt the ridge was sculpted into its current form by glacial activity and subsequent weathering over the millennia, which created the unique jagged character of the Ridge. The Red Cuillin are mainly made up of granite which was less resistant to the glaciers than gabbro, hence the rounded appearance of the hills.

The south-east has some of Britain's oldest rocks in the form of 3,000 million year old Lewisian Gneiss. These are overlaid by younger (800million year old) sedimentary rocks, mainly Torridian Sandstone.

The Cuillin is much younger, being the heavily glaciated remains of a solidified volcanic lava reservoir some 60 million years of age. Just south of the Cuillin can be seen limestone in Strath Suardal. This gives rise to the complexes of caves in the area. It is metamorphosed limestone that forms the marble that is still extracted commercially at Torrin.

The north of the island is composed mainly of lava flows. These horizontal flows built up on top of each other to a depth of around 2,000 ft. The rocks have since been eroded by rivers and ice, leaving flat-capped hills and stepped plateau in the north-west.

In the north-east (Trotternish Peninsula) the underlying sedimentary rocks have collapsed under the weight of the basalt, tipping everything sideways to form the distinctive landslips. The ridge here rises to its highest point at the summit of the Storr, above the tortured landslip topography that includes the iconic pinnacle - The Old Man of Storr. The ridge is home also to the Quiraing, another landslip area of spectacular pinnacles and gullies. This area is a must hiking destination for many. The Quiraing is the only part of the slip still moving—the road at its base, near Flodigarry, requires repairs each year.

www.theskyeguide.com

www.isleofskye.com

en.wikipedia.org

Continued.....

The Old Man of Storr is located on the north of Skye in the area known as ‘Trotternish’.

The ‘Old Man’ is a large pinnacle of rock that stands high and can be seen for miles around. As part of the Trotternish ridge the Storr was created by a massive ancient landslide, leaving one of the most photographed landscapes in the world.

Situated atop Trotternish Ridge—a peninsula in the northeastern region of the Isle of Skye, created as the result of a colossal landslide—the Old Man of Storr is a 160-foot pinnacle rock formation named after its likeness to, well, an old man. The Storr, which refers to the group of looming outcrops that include and surround the Old Man, is a title derived from the Norse word for “Great Man.” Legend has it that the Old Man of Storr was a giant who resided on the Trotternish Ridge. When he was laid to rest upon his death, his thumb—the “Old Man”—remained partially above ground.



<https://www.isleofskye.com>

Atlasobscura.com

Picture: Matt Thornhill/public domain

On the West side of Trotternish is a small location so unusual that it has been given the nickname Fairy Glen. The Fairy Glen was formed by the land being disrupted by a series of landslides (on a smaller scale than the huge landslips that formed the Storr and the Quiraing), with the results then smoothed by subsequent glaciation. One of the hills in Fairy Glen still has its basalt topping intact which, from a distance, looks like a ruin and has been called (inexplicably) Castle Ewan.

In the low cliff behind Castle Ewan there is a very small cave where it has been said pressing coins into cracks in the rock will bring Good Luck.

www.isleofskye.com

continued.....



Picture: pinterest.com

This photo below of Castle Ewan, which I saw posted on Facebook, was what inspired me to investigate the geology and beauty of the Isle of Skye. It was taken by Gavin Hardcastle, whose business Fototripper does photoworkshops and phototours in some of the most scenic areas of the world. Check out his website. The photo is used with his permission.



The Quiraing on Isle of Skye
FreeFoto.com



Picture from the Red Cullin
isleofskye.com



Picture from the Black Cullin
en.wikipedia.org

NEWS RELEASE: (Contact Jeffrey.greenberg@wheaton.edu for more information)

FOR COLLECTORS AT ALL LEVELS, INCLUDING THE MOST ADVANCED, TEACHERS, SECONDARY SCHOOLS AND COLLEGES, ARTISANS IN JEWELRY AND LAPIDARY, AND KIDS OF ALL AGES.

SPECIAL APPOINTMENTS AVAILABLE FOR DEALERS.

THE GEOLOGY AND ENVIRONMENTAL SCIENCE DEPARTMENT AT WHEATON COLLEGE WILL HOST THEIR *LARGEST SALE EVER* OF ROCKS, MINERAL SPECIMENS, FOSSILS, MAPS, GEOLOGICAL INSTRUMENTS, DESIGNER-DISPLAY PIECES, AND RELATED ITEMS.

IT IS RECOMMENDED FOR SOME COLLECTORS, THAT YOU ASK ABOUT PARTICULAR MATERIALS THAT YOU ARE INTERESTED IN. THE SALE OFFICIALLY RUNS FROM **9AM TO 7PM ON SATURDAY, APRIL 6TH, 2019**; TAKING PLACE IN THE LOWER LEVEL OF WHEATON COLLEGE'S MEYER SCIENCE BUILDING. PARKING IS AVAILABLE IN LOTS ON THE EAST OF THE BUILDING, TO THE SOUTH IN THE GRAHAM CENTER LOT, AND AT VARIOUS OTHER LOCATIONS AROUND THE CAMPUS.

CASH, CREDIT CARDS, AND LOCAL CHECKS WILL BE ACCEPTED. PRICES ARE SUBSTANTIALLY LOWER THAN MOST ROCK SHOPS AND INTERNET SITES. SOME PRICES ARE NEGOTIABLE.

EXAMPLES OF UNIQUE OFFERINGS IN ADDITION TO A GRAND VARIETY OF OTHERS INCLUDE:

- LEITZ PETROGRAPHIC MICROSCOPES (AT LEAST THREE)
- WORLD-CLASS COLLECTION OF QUARTZ OF ALL TYPES FROM ARKANSAS, MEXICO, BRAZIL, MONTANA, GEORGIA, MEXICO, ARIZONA, RUSSIA, ETC.
- PEGMATITE ROCKS AND MINERALS FROM NEW ENGLAND, SOUTH DAKOTA, NORTH CAROLINA, TEXAS, AND GEM MATERIALS FROM BRAZIL, AFGHANISTAN, PAKISTAN, MAINE, ETC.
- SULPHUR AND OTHER RARE MINERALS (CHAMBERSITE, HAUERITE...) FROM GULF COAST SALT DOMES
- CUT STONES AND CRYSTALS FROM DIVERSE GEM MATERIALS
- TRISTATE ORE MINERALS AND EXTENSIVE NUMBERS OF EXCELLENT CALCITE GROUPS
- MEXICAN AND COLORADO MINE-ASSOCIATED SECONDARY MINERALS
- PLATINUM-BEARING ORES FROM MONTANA
- GOLD-BEARING ORES FROM SOUTH DAKOTA AND COLORADO
- MAGNET COVE, ARKANSAS RARITIES
- ARKANSAS PHOSPHATES
- A FEW EXTREMELY RARE ARTSMITHITE SAMPLES
- RARE TEXAS MERCURY DISTRICT MINERALS
- THOUSANDS OF MICROMOUNTS, INCLUDING VERY SCARCE MINERALS AND LOCALITIES
- PIECES OF A UNIQUE, NORTHERN, IL CLAY-FULGURITE ("LIGHTNING STONE")

MINERAL-FOSSIL-ROCK COLLECTION SETS WILL BE AVAILABLE AT VERY-LOW PRICE OR GRATIS, FOR SCHOOL TEACHERS.

**Official publication of
The Wisconsin Geological Society Inc.**

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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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www.amfed.org/mwf

WGS WEBSITE ADDRESS:
www.wisgeologicalsociety.com

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FIRST CLASS

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The Trilobite



March 2019

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, 1212 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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Wauwatosa WI 53213
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 Christopher Nohl
3240 N. Summit Ave , Milwaukee 53211*

The check should be made out to WGS

**The Wisconsin Geological Society, Inc
is now in it's 83rd year**