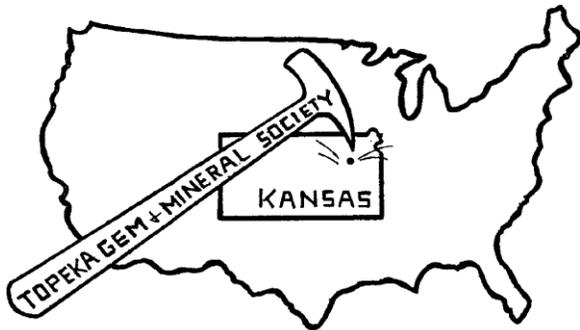


The Topeka Gem and Mineral Society, Inc.
 1934 SW 30th St. Topeka, KS 66611
 Rock2Plate@aol.com

THE GLACIAL DRIFTER



www.topekagemandmineral.org
 Facebook: Topeka Gem and Mineral Society Field Trip

The Topeka Gem & Mineral Society, Inc.
 Organized December 3, 1948

Member of Rocky Mountain Federation of
 Mineralogical Societies American Federation of
 Mineralogical Societies



The Glacial Drifter, Vol. 58, No. 05, May. 2015

The Purpose of the Topeka Gem & Mineral Society shall be exclusively educational and scientific: (1) to promote interest in geology and the lapidary arts; (2) to encourage the collection and display of rocks, gems, and minerals; (3) to encourage field trips and excursions of a geological, or lapidary nature; and (4) to encourage greater public interest and education in gems and minerals, cooperating with the established institutions in such matters.

Meetings: 4th Friday of each month, September to May, 7:30 pm, Stoffer Science Hall, Room 138, Washburn University.
 No meeting in December unless notified of a change. Picnic meetings are held June, July and August.

Dues: Individual, \$15.00; Couple, \$20.00; Junior (under 18 years of age), \$5.00. Dues are collected in December for the following year. Send dues to: **Millie Mowry, Treasurer, 1934 SW 30th St, Topeka, KS 66611.**

2015 OFFICERS AND CHAIRS

President	Mike Cote	220-3272	Cab of the Month	Debra Frantz/Fred Zeferjohn	862-8876
1 st Vice Pres.	Dave Dillon	272-7804	Field Trip Coord.	Larry Henderson	-----
2 nd Vice Pres.	Carolyn Brady	233-8305	Publicity	Donna Stockton	913-645-7677
Secretary	Cinda Kunkler	286-1790	Welcome/Registration	Jason Schulz	379-5538
Treasurer	Millie Mowry	267-2849	Property	M. Cote/D. Dillon	379-5538
Directors	Harold Merrifield	286-3548	AFMS Scholarship	Cinda Kunkler	286-1790
	Chuck Curtis	286-1790	Editor/Exchange Editor	Millie Mowry	267-2849
	George Reed	836-9277	Show Chairman	Harold Merrifield	286-3548
Historian	Deborah Scanland	273-3034	Show Dealer Chairman	Dave Dillon	272-7804
Federation Rep	Harold Merrifield	286-3548	Show Secretary	Cinda Kunkler	286-1790
Corporation Agent	Millie Mowry	267-2849	Jr. Rockhound Leader	Larry Henderson	-----
Librarian	open	-----	Show Case Coordinator	Francis Stockton	913-645-7677
Web Master	Jason Schulz	379-5538			

Area Code for all numbers is (785).

EXCHANGE BULLETINS WELCOME

For exchange newsletters contact the club via mailing address listed above or email at rock2plate@aol.com.
Permission is granted to reprint articles only if proper credit is given to the author, Glacial Drifter and the date.



The program at the May meeting will be presented by Dave Dillon and myself on Lapidary. The Tuesday night class is going well with new faces each night. For those who wish to join us at the barn, remember the lessons are free, we are there to help teach you the skill of cutting and polishing, silversmithing and wire wrapping. At the last Board meeting we discussed and voted on a By-Law change but after more discussion decided to hold off on it until we could reword better. The months of June, July and August we do not have a general meeting, just the pot-luck picnics held at Millie's house. She will put out directions in the next Drifter. Hope to see you all at the next meeting.

Mike and his Rock Stash!



Words from our V. P.

Classes have started and we had several of our members show up! It was a great evening and several were working on projects. Our classes are every Tuesday night from 6:00 to 9:00 at Mike's!!

Dave!



Meeting of the Topeka Gem and Mineral Society – 4/24/15

Mike Cote' called the meeting to order. Jason Schulz announced 24 members and 2 guests are present for the meeting, door prizes were awarded. (Still can use more door prizes – bring them to the next meeting!)

The minutes from the March meeting were printed in The Drifter. Chuck Curtis made a motion and Jason Shulz 2nd to accept as printed.

Treasurers report was given by Millie Mowry, no bills were presented. Motion was made to accept the report, by Chuck and Bobbie Anderson 2nd, motion carried.

Correspondence: Millie has some flyers for various shows. Cinda received a letter from Sandy Cannedy (RMFMS Scholarship Chairman); thanking the club for our contribution to the AFMS Scholarship fund from our sales at the show's Scholarship Table and sale of grab bags to Marjorye Henney that she has given out. With these contributions, it moves our percentage up to 13300% of giving, with \$54.07 towards the next percentage level. A big Thank You to Marjorye Henney!

Committee reports: Show – Harold – nothing, Dave – reported we have lost two more dealers, currently we have 17, and, now have two open spaces.

Historian-Deborah; nothing to report.

Field Trip-Larry Henderson, this weekend will be the Wichita Show, leaving at 7:30, the next weekend is the McPherson Sale & Swap, and he hopes to search the Equus Beds while in the area. He may possibly have a field trip to that area on Memorial Day weekend. Jr Rockhounds; Pat Gilliland will have lesson on collecting at the May 7th class and they will follow with a field trip to Calhoun Bluffs on May 9. Fossil Special Interest Group is still meeting 1st & 3rd Tuesday of month at Bakers Dozen. Go to Facebook and give a 'like' to Jr Rockhounds & TGMS! Larry made a change to the poster for the show. He has it for all to look at.

Webmaster – Jason, nothing new, but we do need more likes on Facebook currently at 38 for the TGMS website. If you have anything you would like to post, send it to Jason.

With no further business, Chuck moved and Jason 2nd to adjourn to our program – Ken Stalder – Stratigraphy, Layering of Rocks.

Fred announced the Cab of the Month Winners are:
Member Cab: Mike Cote' – Montana Agate, Member Jewelry: Mike Cote' – Sterling & Turquoise lighter case; Class Jewelry: Carolyn Brady – Jasper Necklace.

Respectfully submitted by Cinda Kunkler, Secretary

Field Trip Calendar

An up-to-date Calendar can be found on the Topeka Gem and Mineral Society Website:

<http://topekagemandmineral.org/calendar.html>

Public Facebook Page:

<http://www.facebook.com/pages/Topeka-Gem-and-Mineral-Society-Field-Trips/92795058262>

Trips dates are tentative and subject to additions and change. E-mail Larry if you have an interest in any of these trips LHenderson85@gmail.com Larry Henderson, Field Trip Chairman

- May 16, The Museum at Prairiefire "Dinosaurs: Ancient Fossils, New Discoveries" An American Museum of Natural History Exhibit Meet at McDonalds, 11th and Kansas, leave at 9:00 am. Let me know if you are to meet us there.

All visitors to the Museum at Prairiefire enjoy access to our Great Hall exhibits for free. These include a full-scale cast of TYRANOSAURUS REX discovered by Kansas native Barnum Brown, the ALIVE prehistoric creature augmented reality experience, rotating exhibits in our alcove (now showing "The Big Fish Story"), items from the Museum at Prairiefire permanent collection, rotating exhibits in the Sprint Gallery and our Science Theater.

- Access to the Great Hall and its exhibits is FREE for all visitors
- American Museum of Natural History Exhibition: \$14* Adults (13+) | \$8* Children (3-12)
- Discovery Room: \$8* Adults (13+) | \$7* Children (3-12)
- All Access Day Pass: \$22* Adults (13+) | \$15* Children (3-12). *Available only when Exhibition is on display*
- Tickets may be prepurchased at: <http://museumatpf.org/tickets/>
- May 23-25, Memorial Weekend Field Trip to be announced. (Tentative) Contact Larry if interested.
- June 27, Field Trip TBA

- **Additional Show Dates:**

- June 6-7 Springfield, MO Ozark Mountain Gem & Mineral Society show at the Missouri Institute of Natural Science museum grounds, 2327 W. Farm Road, Springfield, MO . Free admission. Public rock auction at 5:30 p.m. Saturday.

For additional listings of gem shows see www.rockngem.com

The first and third Tuesday night the Fossil Special Interest Group will meet at 7:00 p.m. at Baker's Dozen, 4310 SW 21st St, Topeka, KS. We will discuss fossils and other collections. Come join us with show and tell.

May 19, 7:00 p.m. Fossil Special Interest Group

June 2, 7:00 p.m. Fossil Special Interest Group

Corrections to the 2015 Directory

Larry & May Springer==email: larrymay1205@gmail.com (I think I have it correct this time!!)

If you change your phone number or email address, please let me know so I can make the change.

Millie Mowry, Treasurer

We still need Best Choice UPS Labels!

TOPEKA JUNIOR ROCKHOUNDS

Facebook: <http://www.facebook.com/TopekaJuniorRockhounds>
To register for the Junior Rockhounds or any of the classes, email
Shirley Schulz, Program Secretary sschulz@kdheks.gov.



Classes start at 6:30pm at the Town & Country Christian Church, 4925 SW 29th Street. The Topeka Junior Rockhound Advisors will meet at 6:30 pm. Junior Rockhounds are encouraged to attend the club meetings to receive Patches and Badges.

At the class by Pat Gilliland on “Collecting” Thursday, May 7th there were five Junior Rockhounds at the class. We have 28 Junior Rockhounds signed up, with ten of them active. It was agreed by the Advisors Board to have the Junior Rockhound Roundup again this fall. Millie took memberships and money for one vest at the class Thursday, May 7th and two other junior vests were ordered and are in stock.

Field Trip May 9th

There were five Junior Rockhounds at the field trip. (See picture)
Many fossils were found at Calhoun Bluffs. Afterwards we scouted a new place on the north side of Perry Lake. Some nice neospirifer brachiopods were found.



Blue Amber

From Wikipedia, the free encyclopedia

Blue amber is amber exhibiting a rare coloration. It is most commonly found in the amber mines in the mountain ranges around Santiago, Dominican Republic, but also in the eastern parts of the Dominican Republic. Although little known due to its rarity, it has been around since the discovery of Dominican amber.[1][2][3]

Causes of coloration

When natural light strikes blue amber on a white surface, the light passes right through, and is refracted by the white surface. The result is the slight blue hue of blue amber. When the same natural light strikes the amber on a black surface, the light is not refracted by the black surface, but by the actual amber. Hydrocarbons in the blue amber shift the sun's ultraviolet light down in frequency, resulting in the glow of blue amber.[4]

This effect is only possible in some specimens of Dominican amber[5] category, in some Mexican ambers from Chiapas [6] and some ambers

Polished blue amber

from Indonesia. Any other amber (such as Baltic amber) will not display this phenomenon, because its original resin is not from the *Hymenaea protera* tree.[7]

The polycyclic aromatic hydrocarbons, produced through a pyrolytic process that is initiated via irradiation, relax to their ground state, absorb high-energy ultraviolet photons and re-emit them as lower-energy visible photons, according to the absorbance curve of the particular fluorophore.

Recently, optical absorption, fluorescence and time-resolved fluorescence measurements in Dominican ambers have been reported. These studies show that the "blue" variety reveals an intense fluorescence emission in the visible wavelength region, between 430 and 530 nm, with spectral features typical of aromatic hydrocarbons. On the contrary, the Dominican "red" and "yellow" amber varieties have a much weaker and featureless emission, although still do have a certain fluorescence. The process in blue amber is surprisingly similar to phosphor.

Although there are several theories about the origin of Dominican blue amber, there is a great probability that it owes its existence to ingredients such as anthracene as a result of 'incomplete combustion' due to forest fires among the extinct species *Hymenaea protera* trees about 25 to 40 million years ago.[8][9]

Vittorio Bellani and Enrico Giulotto at the University of Pavia, Italy studied several amber specimens by means of optical absorption, fluorescence spectroscopy, and time-resolved fluorescence measurements. The resulting spectral analysis revealed that the spectra of the hydrocarbons are very similar in shape to those of diluted solutions of anthracene, perylene, and tetracene, and suggest that the fluorescent hydrocarbon responsible for the blueness is most likely perylene.[4]

Appearance

Under artificial light, the amber appears like ordinary amber, but under sunlight it has an intense fluorescent blue glow. When held against the sun it will appear like ordinary amber, and under ultraviolet light it will glow a bright milky-blue. This effect can be compared to the ocean, which, although transparent, can appear anything from light blue to dark blue to black, depending on depth, mass, salinity, etc.

Blue amber emits a very agreeable smell (aromatic molecules), which is different from regular amber when it is being cut and polished.

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under direct sunlight.

WISCONSIN'S MOONSTONE

by Dr. William S. Cordua, Emeritus professor of Geology
University of Wisconsin – River Falls

Imagine an October full moon in Wisconsin glowing ghostly blue to yellow as it seems to float over the newly harvested farm fields. Or is this captured in the rock? In Wisconsin's own moonstone? Wisconsin moonstone has been known for decades, but only recently have skilled lapidarists learned to work it to bring out its full beauty. This find surprises non-residents, who at generally associate Wisconsin gemstones with Lake Superior agates and nothing else. What is this material? How did it form? What causes its optical effect? The moonstone localities are on private land in central Wisconsin, not far from Wausau in Marathon County. The mineral is a type of feldspar known as anorthoclase. This formed as a rock-forming mineral within the Wausau Igneous Complex, a series of plutons intruded between 1.52-1.48 billion years ago. There are at least 4 major intrusive pulses within the complex.

The anorthoclase is in the Stettin pluton, the earliest, least silicic and most alkalic of the plutons of the Wausau complex. This body is complexly zoned, largely circular in outcrop and has a diameter of about 4 miles. It is mostly made of syenite, an igneous rock resembling granite, but lower in silica and higher in alkali elements such as potassium and sodium. As such, it lacks quartz, but does contain a lot of alkali feldspar. Further complicating the geology is the intrusion of later pegmatite dikes. Some especially silica-poor varieties sport such odd minerals as nepheline, sodalite, fayalite, and sodium rich amphiboles and pyroxenes. Zircon, thorium, and various rare earth element minerals can be found in this pluton. Large prismatic crystals of arfvedsonite and nice green radiating groups of aegirine (acmite) crystals have been collected for years from these rocks. It is also the pegmatite dikes that contain the anorthoclase showing the moonstone effect.

The moonstone has been found in small pits and quarries and also in farm fields where masses weather out and get frost-heaved to the surface. The weathered masses of coarse cleavable feldspar may at first not look too interesting, but at the right angle the moonstone effect can be seen. The feldspar has two cleavages. The most prominent cleavage surfaces ($\{001\}$ for you crystallography buffs) do not show the moonstone effect – it is on the slightly less developed cleavage surface, $\{010\}$, that the effect appears. cursory glances at samples can cause good material to be carelessly discarded.

To understand what anorthoclase is and why it shows a moonstone effect, we need to describe a bit about the feldspar group of minerals. All feldspars are aluminum silicates that commonly contain varying amounts of calcium, sodium and potassium. At room temperature, the common feldspars break down into two basic groups. First we have the plagioclase group, which range from a pure sodium-rich feldspar called albite to a pure calcium-rich feldspar called anorthite. The minerals in this group, called a solid solution series, are related by progressive changes in the proportion of sodium and silicon to calcium and aluminum. Most plagioclase feldspars are somewhere between albite and anorthite, containing both calcium and sodium. A familiar example of an intermediate plagioclase feldspar is labradorite. Second we have the potassium feldspar (also called K spar for short), which, depending on the internal structure, could be any of the three polymorphs microcline, orthoclase, or sanidine. These feldspars may contain some sodium, also in solid solution, but at room temperature do not make a complete series with albite. Ah, but things are different at high temperatures.

At magmatic temperatures an alkali feldspar can form that contains much sodium and potassium in solid solution with each other. That is anorthoclase, which formed in the pegmatites of the Stettin pluton. Sodium and potassium ions have about the same size, charge and bounding capacity, so fit readily in the same niches in the feldspar. But sodium and potassium aren't enough alike. If the feldspar cools down slowly, to below 400 degrees C, the feldspar structure contracts in size, and sodium and potassium are no longer good interchangeable fits. The homogenous anorthoclase splits on a fine scale into intergrown potassium feldspar and albite. Sometimes the bands of alternating minerals are coarse enough to see. Other times they are microscopic.

Wisconsin's Moonstone- con't.

If they are just the right size and spacing, they scatter the light that penetrates the various layers in the mineral-producing the moonstone effect, or schiller. The only anorthoclase that is truly not a mixture is that which cools very rapidly, such as in lava flows, so the separation cannot occur, and the mineral is frozen into its high temperature form. The material at Wausau cooled slowly, so isn't, strictly speaking, anorthoclase anymore, but an exsolved mixture.

The crystalline structure controls the orientation of these exsolution bands, hence the effect is seen better on some surfaces (the {010} cleavage for example) than at others. This is one reason why shaping the rough stone takes such skill. Other challenges are the weathered nature of some of the stone, and exploiting the cleavage directions inherent in the feldspar. The master of processing these stones is Bill Schoenfuss of Wausau, Wisconsin. Bill often exhibits and sells his beautifully prepared moonstone at shows in the upper midwest. He can be contacted at wismoonstonewgs@gmail.com.

Moonstone has been prized as a gem since antiquity, often characterized as being like solidified moonbeams. The Greeks and Romans both related the gem to their moon gods and goddesses. The American Gem Society considers moonstone an alternate birthstone for June.

From MWF News 1/15 via Pick & Shovel 1/15: via WGMS Rockhounder March 2015

Agate Facts, Information and Description

Agate is the Mystical birthstone for September. It is also the birth stone for the Zodiac sign of Gemini (see the birthstone list for other references to agate). Agate is the accepted gemstone for the 12th and 14th wedding anniversaries.

A very small sample of some of the many agates which are found all over the world. A hard stone, usually within the range of 7-9 on the Moh's scale agates are found in all colors of the rainbow, although green and blue are quite rare.

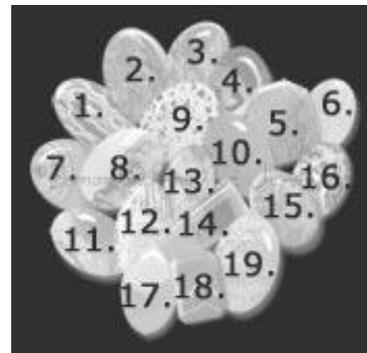
Agate is a variety of chalcedony formed from layers of quartz which usually show varicolored bands. It usually occurs as rounded nodules or veins.

Often tiny quartz crystals form within the stone and add to the beauty and uniqueness of individual stones. These crystals are called drusy (sometimes misspelled as druzi). Lapidaries often cut just the drusy from an agate and jewelers use these drusy cabochons as the main stone or as an accent stone in their jewelry designs.

Some named varieties are: moss agate, eye agate; and plume agate, which looks like it's filled with beautiful feather plumes (see more agate variety names).

Agate is a relatively inexpensive stone except for some varieties with unusual banded or scenic markings. In recent years, Montana agate has gained wide acceptance in jewelry and well cut stones with nicely defined patterns often exceed the price of some of the more well-known gemstones. Plume agate is another that often brings high dollar.

Agate is found all over the world including: the Africa, Asia, Brazil, Egypt, Germany, India, Italy, Mexico, Nepal, and the USA.



Pictures and description of varieties of Agate.

Class: tectosilicate

Crystal system: Hexagonal, Specific gravity: 2.57-2.64

Luster: dull vitreous to greasy, Transparency: transparent or opaque

Fracture: conchoidal to splintery, Streak: white

Agate Folklore, Legend, and Healing Properties:

Agate is believed to discern truth, accept circumstances, and is a powerful emotional healer. Legend says that Agate improves memory and concentration, increases stamina and encourages honesty. Agate is said to be particularly beneficial to people born under the sign of Gemini as it helps them to remain calm and focused

It is believed to prevent insomnia and insure pleasant dreams, to enhance personal courage and protect one against danger. Agate provides a calming influence, improves perception, concentration and helps to develop and increase one's analytical talents. Lake Superior Agates are some of the oldest in the world.

Answers to Agate in picture:

- | | |
|---------------------|---------------------------|
| 1. Madagascar Agate | 11. Crazy Lace Agate |
| 2. Asia Agate | 12. Crazy Lace Agate |
| 3. Moss Agate | 13. Argentina Agate |
| 4. India Black Skin | 14. Montana Agate |
| 5. Plume Agate | 15. Dry Head Agate |
| 6. Blue Lace Agate | 16. Mexican Lace Agate |
| 7. Banded Agate | 17. Laguna Agate |
| 8. Plume Agate | 18. Banded Agate |
| 9. Montana Agate | 19. Graveyard Point Agate |
| 10. Red Agate | |

Source Rockologist Sept. 2014

The Mineral Chalcedony

Reprinted from<minerals.net> via Stoney Statements 6/14; via The Rockologist Sept 2014

Chalcedony is not scientifically its own mineral species, but rather a form of Quartz in microcrystalline form. However the name is an old name, and almost all mineral reference guides and collectors distinguish Chalcedony separately from Quartz. In the gem trade, the name Chalcedony usually describes only white or blue Chalcedony, to distinguish it from the multicolored banded variety Agate and other unique varieties of this mineral.

Chalcedony is quite varied in its formation habits. It sometimes occurs in geodes, lining the cavity with mammillary blobs. Its Agate variety is also found in geodes, commonly lining the outer layer underneath the larger Quartz crystals. Chalcedony also forms pseudo morphs after organic material. A well-known example is petrified wood, in which the wood has completely transformed into Chalcedony. In the Petrified Forest National Monument in Arizona, an entire forest was transformed into petrified wood. Remains of this ancient forest can be seen in the huge silicified logs that are found in the area.

Another well-known pseudo morph is Chalcedony after coral. In the Tampa Bay in Florida, coral has been chemically replaced by Chalcedony, and its original form is preserved.

Another famous Chalcedony pseudo morph is Tiger's Eye. This popular variety has very unique optical properties in the form of a bronze sheen that is caused by fibrous mineral Crocidolite through pseudo morphism.

Impurities are frequently present in Chalcedony. They may form a moss like growth in the mineral, forming what is known as Moss Agate. Another example is Dendrite Agate, a variety of Chalcedony containing manganese oxide impurities that form fabrications resembling trees. These forms of Agate are not true Agates, since they lack the banding.

