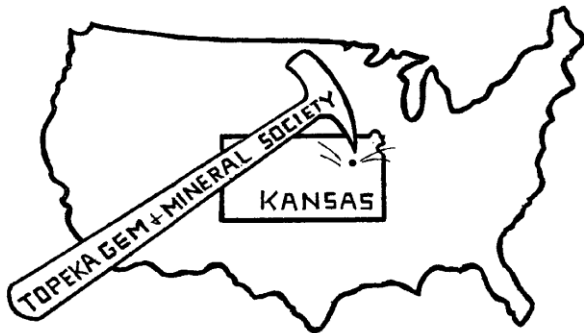


The Topeka Gem and Mineral Society, Inc.
 1934 SW 30th St. Topeka, KS 66611
 Rock2Plate@aol.com

THE GLACIAL DRIFTER



www.TopekaGMS or
 Facebook: Topeka Gem and Mineral Society Field Trips

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. 60, No. 9, Sept., 2017

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.**

www.TopekaGMS.org

2017 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.	Leslie Hartman	380-6016
2 nd Vice Pres.	Carolyn Brady	233-8305	Publicity	TGMS Board	-----
Secretary	Cinda Kunkler	286-1790	Welcome/Registration	Russ & Rhonda Miller	272-6408
Treasurer	Millie Mowry	267-2849	Property	M. Cote/D. Dillon	220-3272
Directors	Harold Merrifield	633-9745	AFMS Scholarship	Cinda Kunkler	286-1790
	Chuck Curtis	286-1790	Editor/Exchange Editor	Millie Mowry	267-2849
	Brad Davenport	379-8700	Show Chairman	Harold Merrifield	633-9745
Historian	Deborah Scanland	273-3034	Show Dealer Chairman	Dave Dillon	272-7804
Federation Rep	Harold Merrifield	633-9745	Show Secretary	Cinda Kunkler	286-1790
Corporation Agent	Millie Mowry	267-2849	Jr. Rockhound Leader	Jason Schulz	640-6617
Librarian	open	-----	Show Case Coordinator	Francis Stockton	913-645-1131
Web Master	Jason Schulz	640-6617			

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.

Words from Our President



Get these TGMS Souvenirs at the September General Meeting, or let Millie know if you want one as there is a limited number left.

I want to thank those who showed up to help clean up and rearrange the storage unit. With every put on the new shelves, labeled and in new heavy duty totes it will make it easier to find things and put them back. We emptied all the 5 gal buckets, so Millie has a few to sell if you are interested.

The general meeting will start again in September on the 22nd at Stauffer Science Hall rm. 138. And the program for September will be the Silent Auction. If you have anything to donate to the club this is the time to bring it.

The lessons at the barn on the 19th area cancelled, but Millie will hold her wire wrap class at her house from 7 pm to 9pm.

Mike and his Rock Stash



New Members

Aston Row &
Paislee Baxa (Jr. Member)
Tecumseh, KS.

Visitors are always WELCOME at our meetings!



Stones & rings made by Jr. Rockhounds in silversmithing class

Volunteering is the heart



beat of YOUR club

Event Calendar

SEPT 2017

1F	
2S	
3S	
4M	
5T	Lessons at the Barn 6 – 9 p.m.
6W	
7T	Jr Rkhd's @ TSCPL rm 202, P Gilliland-Showmanship Wire Wrap Class Millie's 1-3 p.m. only
8F	Board Meeting @ Millie's 7 pm
9S	
10S	
11M	
12T	Lessons at the Barn 6 – 9 p.m.
13W	Advisory Meeting at Millie's 7 p.m.
14T	Wire Wrap Class Millie's 1-3 p.m 7-9 p.m.
15F	Williams Science & Magnet School 9 am-3:30 pm WE NEED HELP HERE contact Lesliee
16S	
17S	
18M	
19T	NO -- Lessons at the Barn Wire Wrap Class @ Millie's 7-9 pm
20W	
21T	Wire Wrap Class Millie's 1-3 p.m 7-9 p.m.
22F	General Mtg-Washburn Stauffer Science Hall rm. 138 7:30pm. Silent Auction
23S	
24S	
25M	
26T	Lessons at the Barn 6 – 9 p.m.
27W	
28T	Wire Wrap Class Millie's 1-3 p.m 7-9 p.m.
29F	
30S	

Any questions ask Millie at rock2plate@aol.com

Check out the new calendar on our web site

www.TopekaGMS.org

OCT. 2017

1S	
2M	
3T	Lessons at the Barn 6 – 9 p.m.
4W	
5T	Jr Rkhd's @ TSCPL rm 202, ORIENTATION Wire Wrap Class Millie's 1-3 p.m ONLY
6F	
7S	
8S	
9M	
10T	Lessons at the Barn 6 – 9 p.m.
11W	
12T	Wire Wrap Class Millie's 1-3 p.m ONLY
13F	NO Board Meeting @ Millie's SHOW SET UP DAY 8 AM TO 8 PM
14S	TGMS SHOW 10 AM – 6 PM
15S	TGMS SHOW 10 AM – 5 PM
16M	
17T	Lessons at the Barn 6 – 9 p.m.
18W	
19T	Wire Wrap Class Millie's 1-3 p.m 7-9 p.m.
20F	
21S	
22S	
23M	
24T	Lessons at the Barn 6 – 9 p.m.
25W	
26T	Wire Wrap Class Millie's 1-3 p.m 7-9 p.m.
27F	General Mtg-Washburn Stauffer Science Hall rm. 138 7:30pm.
28S	
29S	
30M	
31T	Lessons at the Barn 6 – 9 p.m.

Get Ready For The Show!

WE NEED EVERYONE'S HELP AT THE SHOW.

THE GEOLOGY OF NORTHEAST KANSAS

By William Gilliland
(TGMS Member; 4-H Leader)

As we look at Kansas we often feel that the hills and plains are endless and have existed since the beginning of time. We now find, based upon the current geologic information, that what we call Kansas is a relative young portion of the planet Earth that was formed only about 1.3 billion years ago. At that time the area we call the Canadian Shield was one of the largest continents and that added smaller land masses and island chains to its outer edges. Kansas was part of one of those island chains and became welded into the central part as others were accumulated.

Around 1.1 billion years ago a rift, or split, started to open in the Canadian Shield reaching from Kansas up to the region of Lake Superior and downward to Ohio. As this rift opened, volcanoes erupted, and the sides eroded filling the new basins. Lava flows in the Lake Superior area cooled trapping gas bubbles that formed holes in the igneous rocks. The holes in the lava flows were later filled by minerals carried in ground water like copper and a variety of quartz called agate. Many ages later these lavas were uplifted and erosion removed the younger rocks allowing glaciers to erode the "Lake Superior Agates" and transport them as far as Kansas. After about 30 million years this rifting was stopped as other continents collected around the North American craton and formed the first super---continent called Rodinia. This super---continent split into many parts which collected around South America to form a different super--- continent which also split into continents that eventually collected around Africa to form Pangea which split into the present continents.

The part of the continent that was Kansas was not much above sea level and the oceans covered it many times then withdrew to allow erosion of the older sedimentary rocks. In Eastern Kansas you see evidence of the depositing of marine rocks with their fossils and evidence of land environments with stream and river channels and swamp deposits that became coal beds.

While Pangea was being formed a fault system developed from Nebraska to Oklahoma City and a narrow Mountain range (Nemaha Mountains) was formed. This mountain range was only around 40 miles wide and was eroded down and covered by younger sedimentary rocks. Great mountain ranges formed in the center of Pangea that cut Kansas off from moisture evaporated from the ocean to the east. As a result the area became very dry desert and narrow arms of sea water evaporated to form the Permian salt deposits in Kansas.

During the first part of the Mesozoic, Kansas was elevated above sea level and very little sediments were preserved. During Cretaceous times the seas returned and the fossil bearing marine deposits were spread over western Kansas. Land deposits of late Cretaceous time may have covered the eastern part of the State. Volcanic activity occurred in Eastern Kansas between 90 and 120 million years ago. Then the continent was lifted up, the seas retreated and erosion began to shape the landscape. Estimates based upon the quality of coal in eastern Kansas, indicate that as much as ½ mile thickness of rocks and sediments have been removed from eastern Kansas. Just think about how many farm's worth of soil and rock have been carried by rivers into the Gulf of Mexico.

Kansas has not rested quietly here in the center of North America. The Ozark Dome has pushed up and tilted our rock layers to the west. The Rocky Mountains have reached skywards and been eroded into sands and gravels that covered us. Even the old faulted Nemaha Mountains have shaken us with earthquakes as they arched upward under the Flint Hills region. Over the last 65 million years or so erosion has shaped the surface of Kansas, with help from continental ice sheets pushing into the northeastern corner. Now we can benefit from all this geologic history and activity by collecting strange rocks, minerals and fossils that have arrived by seas, rivers, glaciers and igneous eruptions. Oh, I almost forgot, also from space as meteorites.

Bibliography # 4: Buchanan, R.C., 2010, Kansas Geology 2ed., University of Kansas Press.
5: Buchanan, R.C., & McCauley, J.R., 2010, Roadside Kansas 2ed., University of Kansas Press.

(Source: 2017 NORTHEASTERN KANSAS 4-H GEOLOGY FIELD TRIP Guide)



The Fukang Meteorite... and Pallasites

www.amusingplanet.com/2013/05/the-beautiful-fukang-meteorite.html inspired by the July/August 2016 Franklin County Rockhouser. And, yes, these can be found at the Tucson show.

The Fukang meteorite, believed to be some 4.5 billion years old, which is as ancient as Earth itself, was unearthed near a town of the same name in China, in 2000. It is a pallasite, a type of meteorite with translucent golden crystals of a mineral called olivine embedded in a silvery honeycomb of nickel-iron. It's a gorgeous meteorite, and possibly the most stunning extraterrestrial piece of rock man has ever seen.

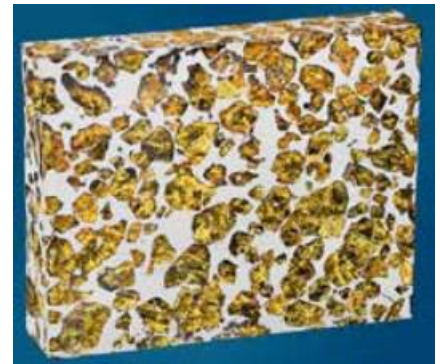


The Fukang meteorite was found by a hiker. The man had often stopped and had lunch on this giant rock, and he always wondered what the metal and crystals were. He finally took a hammer and chisel and broke some pieces off, which he sent to the USA to confirm that it was a meteorite.

The original meteorite weighed just over a thousand kilograms, but the rock was so brilliant that everybody wanted a piece of it. Since then it has been divided into dozens of thin slices and auctioned or distributed around the world.

A total of thirty-one kilograms of specimen is on deposit at University of Arizona. Marvin Killgore of the University of Arizona's Southwest Meteorite

Centre holds the largest portion weighing at 420 kg. In 2008, this piece was expected to fetch \$2 million at an auction at Bonhams in New York but, unfortunately, the prospective bidders were more impressed with a couple of pieces of 130-million-year-old fossilized dinosaur's dung that day, which sold at more than twice the estimate.

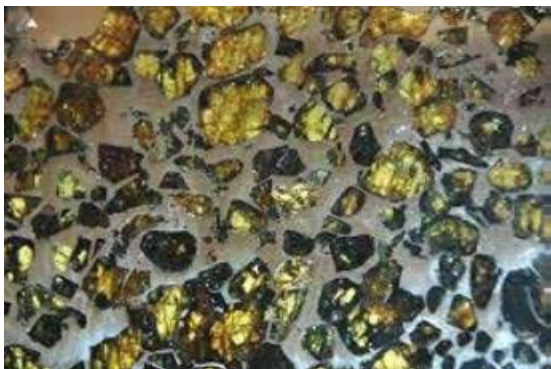


Pallasites

Pallasites are a rare type of stony-iron meteorite. They consist of centimeter-sized olivine crystals of peridot quality in an iron-nickel matrix. Coarser metal areas develop Widmanstätten patterns upon etching. Only 61 are known to date, including 10 from Antarctica, with four being observed falls.

Pallasites were once thought to originate at the core-mantle boundary of differentiated asteroids that were subsequently shattered through impacts. An alternative recent hypothesis is that they are impact-generated mixtures of core and mantle materials. A common error is to associate their name with the asteroid *2 Pallas* but their actual name is after the German naturalist Peter Pallas (1741–1811), who studied in 1772 a specimen found earlier near Krasnoyarsk in the mountains of Siberia that had a mass of 680 kilograms (1,500 lb). The Krasnoyarsk mass described by Pallas in 1776 was one of the examples used by E.F.F. Chladni in the 1790s to demonstrate the reality of meteorite falls on the Earth, which were at his time considered by most scientists as fairytales. This rock mass was dissimilar to all rocks or ores found in this area (and the large piece could not have been accidentally transported to the find site), but its content of native metal was similar to other finds known from completely different areas.

(Wikipedia; Via Rocky Trails 8/17; via WGMS Rockhouser Sept 2017)



Esquel Meteorite and jewelry made from it.

TOPEKA JUNIOR ROCKHOUNDS

<https://www.facebook.com/TopekaGMSJuniorRockhounds>

To register for the Junior Rockhounds or any of the classes, email: Leslie Hartman at: Hartman.12345@hotmail.com



JR ROCKHOUND CLASSES

(Some classrooms and dates may have changed so please watch for changes) ****Here are reminders of the next 2 months of classes: Topeka Shawnee CO Public Library sign in starting at 6:00pm and classes starting at 6:30pm.

- ❖ Thursday, October 5th Orientation Class/Open House. All instructors **Anton Room 202**. **The new class will give a chance for new students to meet the instructors and hear about each class that is being offered. The current students will have a chance to find out about classes they have not taken yet and possibly hear about previous classes taken and learn more of what they would like to expand on.** Bring a friend!!
- ❖ Thursday, November 2nd Stone Age Tools & Art class instructor Leslie Hartman **Anton Room 202**
- ❖ Thursday, December 7th Fossils instructor Pat Gilliland Room Room TBD in November

Activity Center

During the general meeting at Washburn University 1700 SW College Ave., Topeka, KS in the Stoffer Science Hall Room 138 there is an Activity Center for Jr Rockhounds from 7:00pm-7:30pm. Isaac Hartman will bring some items he has found this summer from hunting in other locations in Kansas and Nebraska.

You don't want to miss the general meeting on September 22nd there will be a few surprises!

Future Field Trips

TGMS and Jr Rockhounds Field Trip

September 23rd at 10am we will meet at Red Robins 6230 SW 6th Ave, Topeka, KS 66615. We will drive to the area where we will park which is only seconds away and walk to the hunting location that is only seconds away.

After Red Robins if anyone missed Turkey Point and would like to go just let me know before the field trip or while at Red robins and I will take you there. The address given for Turkey point is 21748 S Hoch Rd, Osage City, KS 66523 but the area we hunt is at the intersection of West 301st St/South Anderson and South Indian Hills Rd. Turkey Point is next to Eisenhower State Park and they both share Melvern Lake.

Make sure to bring something to drink, bag to collect, and should wear pants and shoes not flip flops.

hartman.12345@hotmail.com or 785-380-6016



TGMS and Jr Rockhounds Activities

TGMS has an opportunity to visit the students at Williams Science and Fine Arts Magnet School 1301 SE Monroe St, Topeka, KS 66612 on September 15th next Friday from 9:30am to 3:00pm with a 30 minute lunch break. We will need to be there by 8:30am to start setting up. We will be in a room where each classroom of students will come visit us. We will have tables set up and we display rock, fossils, and minerals for the students to see and touch. Here is what we will need:

1. Some TGMS members to bring some fossil, rocks, and minerals to show-n-tell,
2. Some TGMS members to help count out the small brown paper lunch bags to the number of students in each class that walk through and will put these into plastic grocery bags to give to the teachers to hand out at the end of the day. These brown bags already have information about the group and a free rock for the students so no need to fill them.

Please let me know ASAP if you can be there to help any part of the day or all day. Right now we need PM help! Hartman.12345@hotmail.com

Upcoming Event

There will be a special “fossil hunt” that we will need a few members and Jr Rockhounds to be part of for pictures to put into the paper. The date is yet to be determined but should be at the end of this month after the general meeting. This picture and article will advertise one of the activities we do in TGMS which is a field trip plus it will mention our Orientation/Open House class, TGMS, Jr Rockhounds, October show, etc. If any of you would like to participate and have any questions please let me know. Hartman.12345@hotmail.com



WORKING TOGETHER WORKS



Filling grab bags for the show at the August picnic.

Septarian Dragon Stone

This stone has a few different names, Dragon stone, Septarian Geode, Septarian Concretion, to name a few. It is an interesting stone as it is a combination of different minerals. The name Septarian is derived from the Latin name, Septem, meaning seven. This relates to the fact that the mud balls cracked with 7 points in every direction, thereby creating the beautiful design.

Septarians are composed of Calcite (The Yellow Centres), Aragonite (The Brown Lines) and the Outer Grey Rock is Limestone. Occasionally the fossil or some of the fossils which started the formation of the rock is noticeable in the rock.



Septarians were formed during the Cretaceous period, 50 to 70 million years ago when the Gulf of Mexico reached what is now Southern Utah. Decomposing sea life killed by volcanic eruptions, had a chemical attraction for the sediment around them, forming mud balls and as the ocean receded, the balls were left to dry and crack. Because of their bentonite content they also shrank at the same time trapping the cracks inside. As decomposed calcite from the shells was carried down into the cracks in the mud balls, calcite crystals formed. A thin wall of calcite was transformed into aragonite separating the bentonite heavy clay exteriors from the calcite centres. Because of this, the nodules are called Septarians.

Concretions

Septarian concretions are a special type of concretion. Concretions are masses of mineral matter formed when minerals in water are deposited about a nucleus (such as a leaf or shell or other particle) forming a rounded mass whose composition or cement is usually different from the surrounding rock. This can occur at the time of deposition, shortly thereafter, or after the sediment has hardened.

Generally, concretions are harder than the rocks around them; therefore, over time the concretions can weather out of the surrounding rocks. Concretions in Kansas are formed from any of a number of minerals, including calcite, limonite, barite, pyrite, or silica. They vary widely in shape and size, with the huge spherical concretions at Rock City in Ottawa County and Mushroom Rock State Park in Ellsworth County measuring up to 27 feet in diameter.

Septarian stone also makes very good cabochons. Here is a geode I cut in half and then polished. I will eventually turn them into pendants, setting them in silver.

Excerpted from Rockgrinders Gazette, 6/17 via WGMS Rockhouser 8/2017

